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Form 1473

Headquarters
US ARMY COMBAT DEVELOPMENT EXPERIMENTATION CENTER
Fort Ord, California

(6) OPTIMUM LOADING PLANS

for the

M113 ARMORED PERSONNEL CARRIER .

(9) Final rept. 1 May - 21 Jul 61.

(11) Nov ~~1961~~ 1961

(12) 148p.

APPROVED:



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Summary

1. An experiment was conducted by USA CDEC at Fort Ord and Hunter Liggett Military Reservation from 1 May to 21 July 1961 to determine optimum loading plans for the M113 armored personnel carrier as it was employed by:

a. The ROAD-65 mechanized rifle platoon equipped with 4 APCs.

b. The optimum mechanized rifle platoon with 5 APCs, developed by USA CDEC.

c. An alternate mechanized rifle platoon with 4 APCs, developed by USA CDEC.

2. The experiment was held in conjunction with the Optimum Composition of the Rifle Squad and Platoon Experiment, which was conducted at Hunter Liggett Military Reservation during the same period.

3. During the field experimentation optimum loading plans were developed for the three aforementioned units. These plans are covered in detail in the annexes to this report. Other conclusions developed through this experimentation were as follows:

a. Additional tie-down loops on the right and left sponsons and on the upper right bulkhead are required to provide load security.

b. Three days' requirements of Classes I, II, IV, and V supplies can be carried, but only a one-day supply of water can be carried without reducing the amount of other classes of supplies.

c. Proposed modifications to the M113 APC (rounding of the corners, additional gas tank, and vision slits) will decrease the amount of supplies carried on-vehicle by approximately one-third.

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I

General Information

A. AUTHORITY

"Second Half FY61 CDEC Experimentation Program", Letter, ATSWD-R 322 (CDEC), Headquarters, United States Continental Army Command, 10 March 1961.

B. PURPOSE

The purpose of the experiment was to determine optimum loading plans for the M113 armored personnel carrier for the ROAD-65 rifle platoon and the optimum mechanized rifle platoon as developed by USA CDEC experimentation for the 1965-1970 period.

C. CONDUCT OF EXPERIMENTATION

1. Description

a. The experiment was conducted at Fort Ord and Hunter Liggett Military Reservation, California. The planning phase was from 4 January to 14 April 1961. From 15 March to 1 May tentative loading plans were prepared and stationary tests conducted. The field phase was conducted from 1 May to 21 July and the evaluation and reporting phase from 24 July to 25 August.

b. The required types and quantities of weapons, equipment, and supplies were assembled at Fort Ord. When actual items were not obtainable substitutes were fabricated according to the most reliable data on size, weight, and configuration. The next steps were to design and make scaled models of the M113 APC and the supply items to be carried. Using these models, tentative loading plans were developed. The loading plans were further refined by stationary tests in which actual personnel and equipment were loaded in the M113 APC. By these means, and largely through trial and error, tentative loading plans were developed for field testing.

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c. The field phase of the experiment was held in conjunction with the Optimum Composition of the Rifle Squad and Platoon Experiment. (Reference 15, p 9.) For the purpose of developing loading plans, six M113 APCs were assigned to the experimental units, which were three mechanized rifle platoons. In addition, a ROAD-65 mechanized rifle platoon was used for the loading experiment only. In the "Squad and Platoon" experiment various experimental squad and platoon organizations engaged in a series of tactical field operations over different types of terrain under conditions of both daylight and darkness. Basic loads, prescribed loads, physical arrangements of the loads and personnel in the carrier, and security of loads were tested during cross-country movement. Stability, balance, and flotation characteristics were examined by swimming carriers containing personnel and cargo loads of each type. Further details on the extent of the field experimentation, types of terrain, types of situations, and weather conditions are contained in the final report of the Optimum Composition of the Rifle Squad and Platoon Experiment.

2. Evaluation Criteria

Before developing loading plans, it was necessary to determine the characteristics of a good loading plan. On the basis of experience, military judgment, and loading plans developed by other agencies, the following criteria were developed:

- a. Securing all loads except for individual weapons and equipment.
- b. Loading the vehicle with the least possible time and effort.
- c. Proper distribution and security of loads to permit cross country movement and safe operation in water.
- d. Accessibility of items in the following priority:
 - (1) Individual combat load
 - (2) Ammunition and alternate weapons, if any
 - (3) First aid equipment
 - (4) Vehicular maintenance tools
 - (5) Rations and water
 - (6) Full field load.
- e. Least possible vulnerability of supplies to CBR attack.

- f. Access to exits at all times.
- g. Integrity of fire teams or weapons crews to permit commitment as a unit.
- h. Capability to dismount personnel rapidly in order to move out in a tactical formation in the least possible time.
- i. Carrying the greatest possible number of balanced one-day supply requirements insuring that enough supplies are carried to permit a unit to conduct normal dismounted combat operations for at least 24 hours without resupply from the vehicle.
- j. Distribution of equipment and supplies to insure the greatest possible comfort and convenience for the crew and to reduce fatigue during extended moves.
- k. Additional space for contingencies such as the need for an aid man or a forward observer or the requirement to transport a prisoner.

3. Method of Evaluation

- a. Three loading plans were developed: one for the ROAD-65 platoon, one for the optimum platoon equipped with five APCs, and one for the optimum platoon mounted in only four carriers. In each case, the evaluation criteria listed in Paragraph C2, above, were used as a basis for loading details.
- b. The approach was first to determine the supply requirements for a one-day period in combat, and then to determine the maximum number of one-day supply requirements that could be loaded in the carriers.
- c. Throughout the field test, military evaluators and officers and noncommissioned officers of the experimental units made observations and recommendations concerning all aspects of the loading plans. Loading plans were changed in accordance with their comments.

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II Discussion

A. GENERAL

1. Three days' supply of Classes I, II, IV, and V could be carried for each platoon in its organic vehicles. No Class III supply was carried other than that in the fuel tank of the carrier. Only a one-day supply of water could be carried.
2. The amount of water required is increased by use of the quick-serve ration which requires an average of slightly more than one gallon of water per man per day for meals alone. This necessitated appropriate adjustments to the factors shown in FM 101-10. In addition to the water stowed inside the carrier, the total capacity can be increased to approximately one and one-half days' supply by enlarging the two water can brackets on the rear of the APCs. (See Figures D-5 through D-7, pp 144 through 146.)
3. In consideration of the effects of CBR warfare, the smallest possible amounts of equipment and supplies were loaded on the exterior of the carrier.

B. PLAN FOR THE ROAD-65 MECHANIZED RIFLE PLATOON

The general comments above apply to the loading plan for the ROAD-65 rifle squad and platoon, the details of which are shown in Annex A. It was found that the weight and bulk of the ammunition for the M67 recoilless rifle limited the amount of ammunition carried by the ammunition bearer to three rounds.

C. PLAN FOR THE OPTIMUM MECHANIZED RIFLE PLATOON

1. Exact information on the type of packaging or size, weight, and cubic measurement was not available for all weapons, equipment, or ammunition planned for issue in the 1965-1970 period. In such cases estimates were based on the most reliable data obtainable.

2. The "Squad and Platoon" experiment determined that the optimum number of carriers for the mechanized rifle platoon was five. Accordingly, loading plans for this platoon were based on five carriers. The detailed loading plans are shown in Annex B.

D. PLAN FOR THE ALTERNATE MECHANIZED RIFLE PLATOON

Although five is the optimum number of carriers, it is possible to mount the platoon in four. The detailed loading plans for this alternate

organization are shown in Annex C.

E. MODIFICATIONS TO THE M113 ARMORED PERSONNEL CARRIER

1. Through informal discussions with representatives of the US Army Infantry Center and the manufacturer of the M113 APC it was learned that consideration is being given to modifying the M113 APC as follows: rounding the corners to gain increased ballistic protection, increasing the fuel-carrying capacity by forty gallons, and providing vision slits in the right and left cargo loading areas of the vehicle. If these modifications are made, the usable cargo and storage space would be reduced by approximately one-third and the number of one-day supply requirements carried reduced accordingly.

2. It was determined that additional tie-down loops should be installed in the carrier. Although all loads were secured for cross-country movement, additional tie-down loops would lessen the problems in stowage and would improve load security. These loops should be located on the forward leading edge of the right and left sponsons and on the upper right bulkhead.

3. Since radios are not installed on the right interior of most vehicles, the studs and brackets provided there are not always required. These studs and brackets interfere with stowage and should be deleted by the manufacturer and installed as field modifications only on APCs used as command communication vehicles.

III

Conclusions and Recommendations

A. CONCLUSIONS

1. The loading plan contained in Annex A is the optimum loading plan for the ROAD-65 mechanized rifle platoon.
2. The loading plan contained in Annex B is the optimum plan for the USA CDEC optimum mechanized rifle platoon.
3. The loading plan contained in Annex C is the optimum loading plan for the USA CDEC alternate mechanized rifle platoon.
4. Additional tie-down loops on the right and left sponsons and on the upper right bulkhead are required to provide load security.
5. Three days' requirements of Classes I, II, IV, and V supplies can be carried, but only a one-day supply of water can be carried without reducing the amount of other classes of supplies.
6. Proposed modifications to the M113 APC (rounding of the corners, additional gas tank, and vision slits) will decrease the amount of supplies carried on-vehicle by approximately one-third.

B. RECOMMENDATIONS

It is recommended that:

1. The loading plan contained in Annex A be adopted as the optimum loading plan for the ROAD-65 mechanized rifle platoon.
2. The loading plan contained in Annex B be adopted as the optimum loading plan for the USA CDEC optimum mechanized rifle platoon.
3. The loading plan contained in Annex C be adopted as the optimum loading plan for the USA CDEC alternate mechanized rifle platoon.
4. Additional tie-down loops be added on the carrier on the forward leading edges of the right and left sponsons and on the upper right bulkhead. See Annex D.
5. In determining modifications to the M113 APC, consideration be given to the reduced carrying capacity caused by such modifications.
6. The two water can brackets on the rear of the M113 APC be modified to carry four cans instead of two. See Annex D.

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IV References

- 1) Infantry Reference Data, March 1961, published by USAIS.
- 2) FM 17-20.
- 3) FM 57-35.
- 4) FM 101-10, Part 1.
- 5) TM 9-2300-224-10.
- 6) TM 9-2300-224-20.
- 7) TM 9-2300-224-20P.
- 8) "Small Arms Weapons System Concepts Conference, 25-26 October 1960", Springfield Armory, Springfield Mass (SECRET).
- 9) "The Infantry Battalion", Troop Test Program Report, 1st Marine Division, 21 December 1960.
- 10) Reference Data for Armor Units, 1960, published by USAARMS.
- 11) "Comparison of M59 and M113", Ground Mobility Department USAIS, Fort Benning, Ga.
- 12) "The Organization of the 1965-70 Basic Fighter Team (Modern Infantry Squad)", Staff Study, USAIS, 1 December 1959 (SECRET).
- 13) "Tentative Conclusions and Recommendations, Squad and Platoon Experiment, USA CDEC Spring 1961 Experimentation - (Third and Fourth Quarters FY61)", Letter, ATCDC-TC, 11 July 1961 (U).
- 14) "Rifle Company, Mechanized Division, Mechanized Infantry Battalion", Draft TOE 7-47E, USAIS.
- 15) "Optimum Composition of the Rifle Squad and Platoon", Final Report of Experiment, Hq USA CDEC, Ft Ord, California November 1961, (OFLUSE).

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ANNEXES

Annex A

LOADING PLAN FOR ROAD-65 MECHANIZED RIFLE PLATOON

1. The ROAD-65 mechanized rifle platoon consists of three ten-man rifle squads, one eleven-man weapons squad, and a three-man platoon headquarters. Each squad is equipped with an M-113 APC.
2. The platoon headquarters personnel are distributed among the squads for transportation purposes. In accordance with the doctrine contained in FM 17-20, the platoon leader and radio telephone operator were placed in the carrier of the first rifle squad. The third member of platoon headquarters, the platoon sergeant, was placed in the carrier of the weapons squad. The APCs of the second and third rifle squads contained only the ten men normally assigned to each squad. Squad composition, job titles, weapons, ammunition, equipment, storage diagrams, and photographs for each unit are shown in Appendixes 1 and 2, following.
3. Basic "off-carrier" requirements for personal equipment were determined by ascertaining what the individual required to be self sufficient in combat for twenty-four hours of dismounted action.
4. Items of equipment issued to the squad and platoon were prescribed by draft TOE Nr 7-47E, Rifle Company, Mechanized Division, Mechanized Infantry Battalion, as prepared by USAIS. The exact location of each item for each man was determined by experimentation.
5. Rations used allow a three-day balanced diet for each individual. A combination of quick-serve meals and individual combat rations was selected; the ratio being two quick-serve meals to one individual combat ration. Other combinations of the two rations would produce comparable results since both types have approximately the same volume.

APPENDIX I

RIFLE SQUADS ROAD-65 MECHANIZED RIFLE PLATOON

The composition of the rifle squads of the ROAD-65 mechanized rifle platoon is as follows:

1 Squad leader	2 Grenadiers
2 Team leaders	2 Riflemen
2 Automatic riflemen	1 Rifleman/driver

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PLATOON LEADER Rifle 7.62 mm Cartridge 7.62 mm (100) Compass Lensesatic Radio AN/PRC-4 Flashlight Watch Wrist Mesoscope Assembly Binoculars 6 x 30 Radio Set TA-1/PT	RADIO OPERATOR Rifle 7.62 mm Cartridge 7.62 mm (100) Tool Kit TE-33 Radio AN/PRC-10 Telephone Set TA-1/PT	SQUAD LEADER Rifle 7.62 mm Cartridge 7.62 mm (100) Compass Lensesatic Radio AN/PRC-4 Flashlight Watch Wrist Telephone Set TA-1/PT	TEAM LEADER Rifle 7.62 mm Cartridge 7.62 mm (100) Compass Lensesatic	AUTOMATIC RIFLEMAN Rifle Auto 7.62 mm w/Bipod Cartridge 7.62 mm (260)	GRENADE Pistol Cal .45 Cartridge Cal .45 (21) Lehr Grenade XM79 Cartridge 40 mm (27)
					
RIFLEMAN Rifle 7.62 mm Cartridge 7.62 mm (100)	TEAM LEADER Rifle 7.62 mm Cartridge 7.62 mm (100) Compass Lensesatic	AUTOMATIC RIFLEMAN Rifle Auto 7.62 mm w/Bipod Cartridge 7.62 mm (260)	GRENADE Pistol Cal .45 Cartridge Cal .45 (21) Lehr Grenade XM79 Cartridge 40 mm (27)	RIFLEMAN Rifle 7.62 mm Cartridge 7.62 mm (100)	RIFLEMAN/DRIVER Rifle 7.62 mm Cartridge 7.62 mm (100) Wyeas Sight Infrared

FIGURE A-1

1ST RIFLE SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all rifle platoon personnel are listed in Table A-1, p 21.



FIGURE A-2

PERSONNEL AND EQUIPMENT LOAD - 1ST RIFLE SQUAD CARRIER

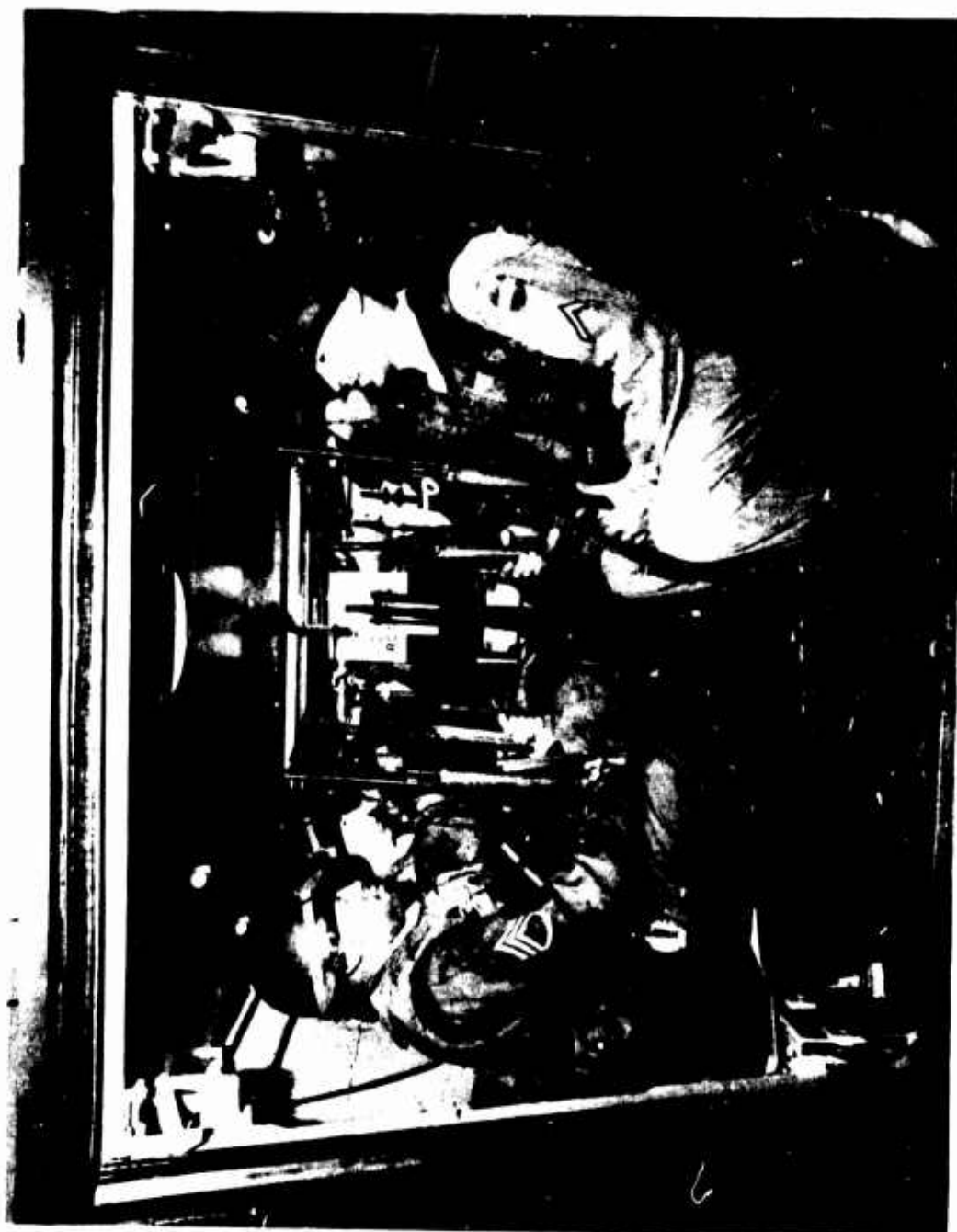


FIGURE A-3

INTERIOR VIEW - 1ST RIFLE SQUAD CARRIER

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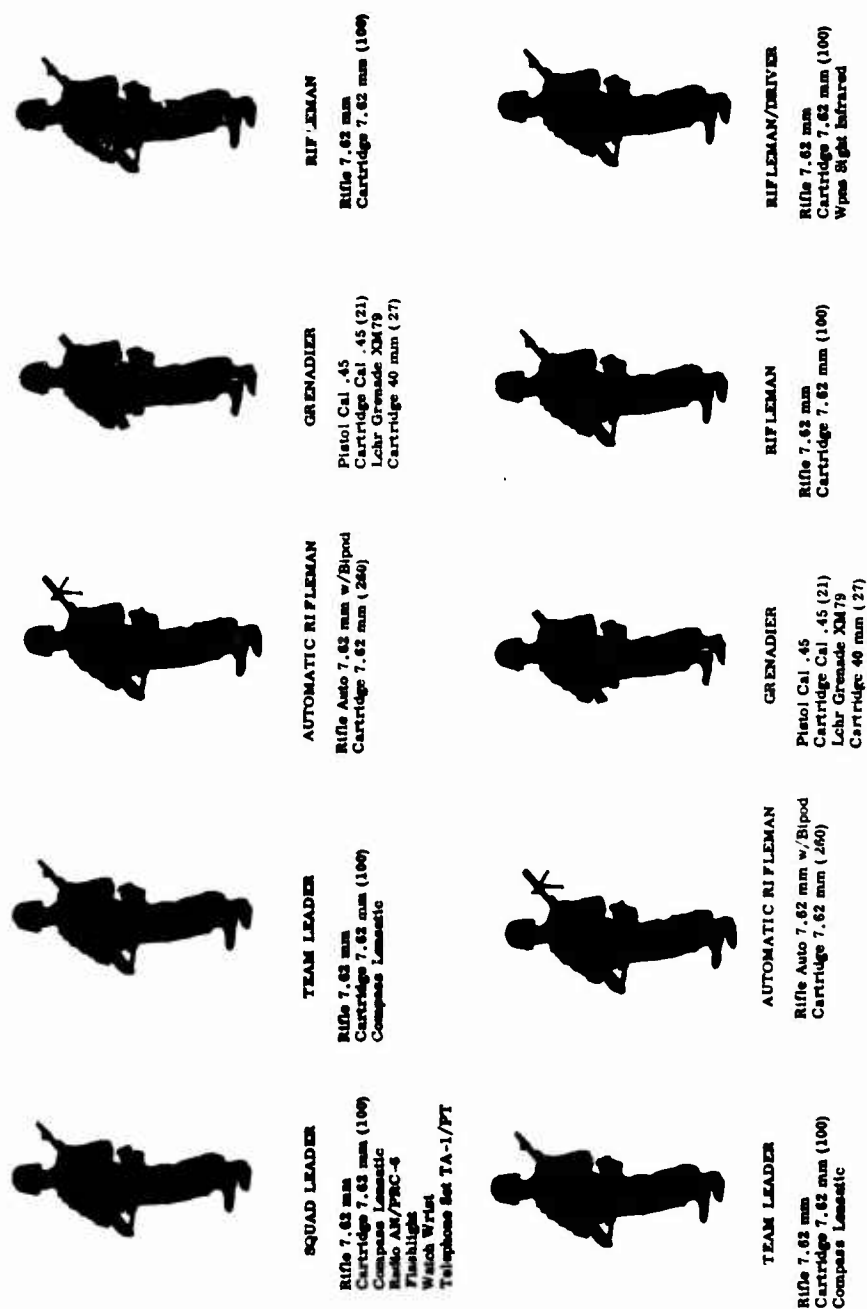


FIGURE A-4

2D AND 3D RIFLE SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all rifle platoon personnel are listed in Table A-1, p 21.

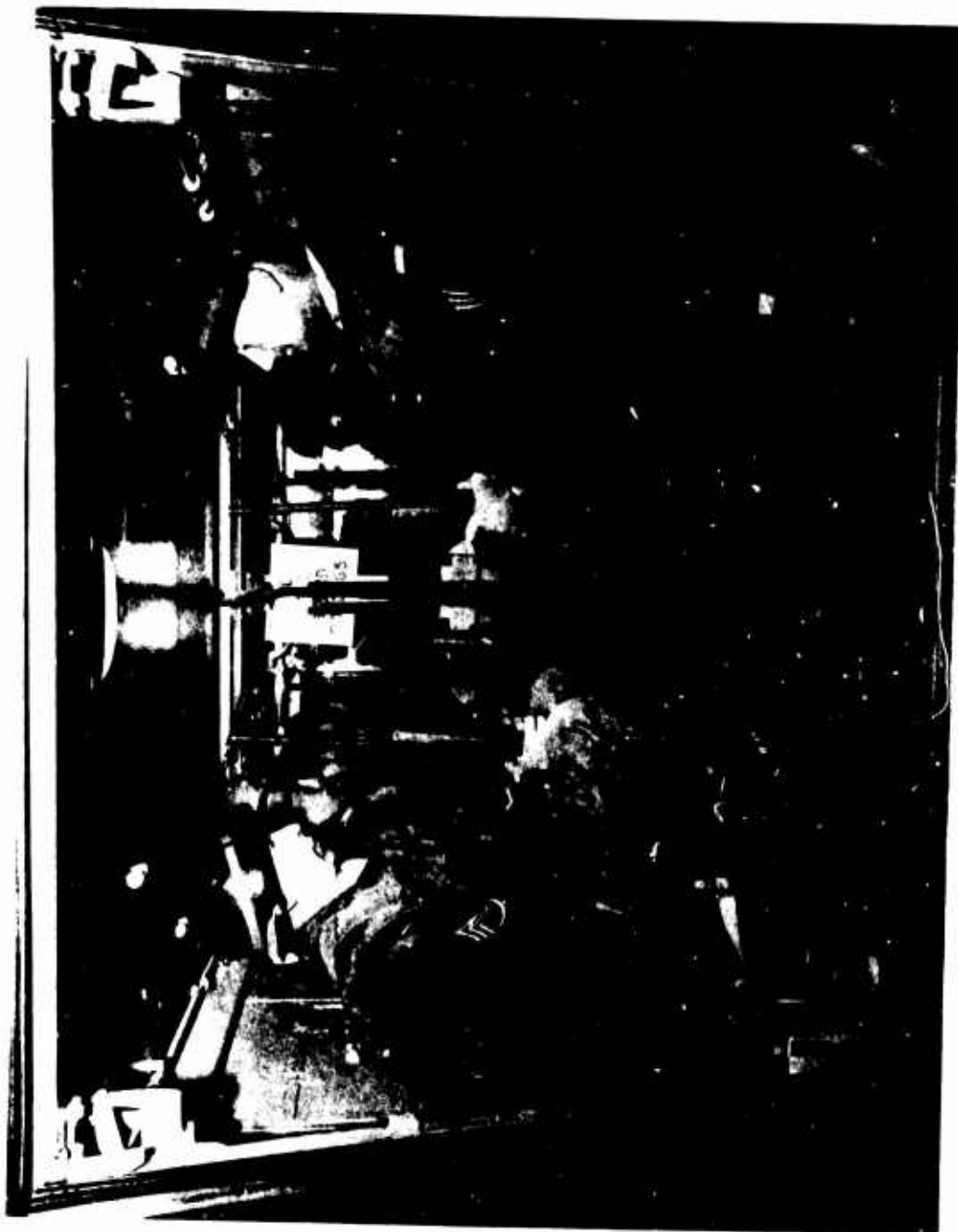


FIGURE A-6
INTERIOR VIEW - 2D AND 3D RIFLE SQUAD CARRIERS

TABLE A-1
EQUIPMENT COMMON TO ALL RIFLE PLATOON PERSONNEL*

1. **Fighting Load**
 - a. **Load Carrying Group**
 - (1) Belt, pistol
 - (2) Suspenders, pack, field
 - (3) Case, first aid packet, w/packet
 - (4) Pouch, small arms, ammo (2)
 - (5) Carrier, intrenching tool, w/tool
 - (6) Cover, canteen, w/canteen and cup
 - (7) Bayonet knife, w/scabbard
 - (8) Grenade, hand, fragmentation (2)
 - (9) Digger, foxhole
 - b. **Clothing**
 - (1) All-purpose integrated outer garment
 - (2) Undershirt
 - (3) Drawers
 - (4) Socks
 - (5) Helmet, steel, w/liner
 - (6) Boots, combat
2. **Existence Load**
 - a. Pack, field, combat
 - b. Ration, combat, individual (1/3)
 - c. Armor, body, fragment protection
 - d. Armor, eye
 - e. Mask, protective, field
 - f. Poncho, lightweight, OD
 - g. Gloves, shell, leather, w/inserts
3. **Full Field Load**
 - a. **Extra Clothing**
 - (1) Undershirt
 - (2) Drawers
 - (3) Socks
 - b. Sleeping bag, comforter, w/carrier
 - c. Tent, shelter half, w/pins and poles
 - d. Toilet articles
 - e. Morale Kit

* Additional items peculiar to personnel in different positions are shown in Figures A-1 and A-4, pp 14 and 18.

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TABLE A-2
ON-CARRIER EQUIPMENT LIST
1ST RIFLE SQUAD CARRIER

1. Communications Equipment		
a.	Radio Set, AN/GRC-7	
b.	Control Group, AN/GRA-6	
c.	Reel Equipment, CE-11	
d.	Spool DR-8, w/wire	
2. Ammunition		
a.	Cartridge, 7.62mm	
	(1) Semi-Automatic	(1260)
	(2) Automatic	(840)
	(3) Machine Gun MLB	(2400)
b.	Cartridge, cal. 45	(50)
c.	Cartridge, cal. 50	(800)
d.	Cartridge, 40mm, M381	(144)
e.	Grenade, hand, fragmentation	(25)
f.	Digger, foxhole	(25)
g.	Launcher, rocket, 66mm, M72	(10)
h.	Mine, Claymore, anti-personnel, M18	(6)
3. Additional Equipment		
a.	Radiacmeter, IM-108/PD	(1)
b.	Cookset, field	(2)
c.	Stove, gasoline burner, one burner, 5500 BTU	(2)
d.	Life Preserver, yoke, gas or oral inflation w/gas cylinder	(13)
e.	Can, water, military, 5-gal	(7)
f.	Meal, quick-serve, 6-man	(12 cases)
g.	Ration, combat, individual	(2 cases)
h.	Batteries, BA 279/U	(2)
i.	Batteries, BA 270/U	(4)
j.	Machine Gun M60	(1)
k.	Tripod, Machine Gun	(1)

TABLE A-3
ON-CARRIER EQUIPMENT LIST
2D AND 3D RIFLE SQUAD CARRIERS

1. Communication Equipment		
a.	Radio Set, AN/VRC-7	
2. Ammunition		
a.	Cartridge, 7.62mm	
	(1) Semi-Automatic	(840)
	(2) Automatic	(840)
	(3) Machine Gun MLB	(2400)
b.	Cartridge, cal .45	(50)
c.	Cartridge, cal .50	(800)
d.	Cartridge, 40mm, M381	(144)
e.	Grenade, hand, fragmentation	(25)
f.	Digger, foxhole	(25)
g.	Launcher, rocket, 66mm, M72	(10)
h.	Mine, Claymore, anti-personnel M18	(6)
3. Additional Equipment		
a.	Cookset, field	(2)
b.	Stove, gasoline burner, one burner, 5500 BTU	(2) (2)
c.	Life Preserver, yoke, gas or oral inflation w/gas cylinder	(12) (12)
d.	Can, water, military, 5-gal	(7)
e.	Meal, quick-serve, 6-man	(12 cases)
f.	Ration, combat, individual	(2 cases)
g.	Batteries, BA 279/U	(2)
h.	Machine Gun M60	(1)
i.	Tripod, Machine Gun	(1)

TABLE A-4
WEIGHT DISTRIBUTION
1ST RIFLE SQUAD CARRIER

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
12	Case	Meal, quick-serve, 6-man	9.5	114	
2	Case	Ration, combat, individual	25	25	25
1	Case	Digger, foxhole	25	25	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
1	Case	Mine, Claymore, anti-personnel M-18	18	18	
2	Case	Cartridge, 40 mm, M381	58	116	
5	Box	Cartridge, 7.62 mm (A130)	34	170	
12	Box	Cartridge, 7.62 mm MLB (A127)	17		204
1	Box	Cartridge, cal .45	3		3
7	Box	Cartridge, cal .50	37		259
10	Each	Launcher, rocket, 66 mm, M72	4.5	45	
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3	6	
2	Each	Cookset, field	2	4	
7	Each	Can, water, military, 5-gal	50	250	100
4	Each	Battery, BA 270/U	2	8	
2	Each	Battery, BA 279/U	4		8
1	Each	Radiacmeter, IM-108/PD	4	4	
13	Each	Life Preserver, yoke, gas or oral inflation w/gas cylinder	4.5		58.5
1	Each	Mount, MT-297	58		58
1	Each	Radio, AN/GRC-8	137		137
1	Each	Control Group, AN/GRA-6	28		28
1	Each	Reel equipment, CE-11 w/wire	18		18
CARGO WEIGHT EACH SIDE				842.8	898.5
TOTAL CARGO WEIGHT					1,741.3

Above weights do not include combat equipped individuals. For computing individual weights an average of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

TABLE A-5
WEIGHT DISTRIBUTION
2D AND 3D RIFLE SQUAD CARRIERS

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
12	Case	Meal, quick-serve, 6-man	9.5	114	
2	Case	Ration, combat, individual	25	25	25
1	Case	Digger, foxhole	25	25	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
1	Case	Mine, Claymore, anti-personnel, M-18	18	18	
2	Case	Cartridge, 40mm, M381	58	116	
5	Box	Cartridge, 7.62mm (A130)	34	170	
12	Box	Cartridge, 7.62mm, MLB (A127)	17		204
1	Box	Cartridge, cal .45	3		3
7	Box	Cartridge, cal .50	37		259
10	Each	Launcher, rocket, 66mm, M72	4.5	45	
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3	6	
2	Each	Cookset, field	2	4	
7	Each	Can, water, military, 5-gal	50	250	100
4	Each	Battery, BA 270/U	2	8	
12	Each	Life Preserver, yoke, gas or oral inflation w/gas cylinder	4.5		54
1	Each	Mount, MT297	58		58
1	Each	Radio, AN/VRC-7	32.5		32.5
CARGO WEIGHT EACH SIDE				838.8	735.5
TOTAL CARGO WEIGHT					1,574.3

Above weights do not include combat equipped individuals. For computing individual weights, an average weight of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

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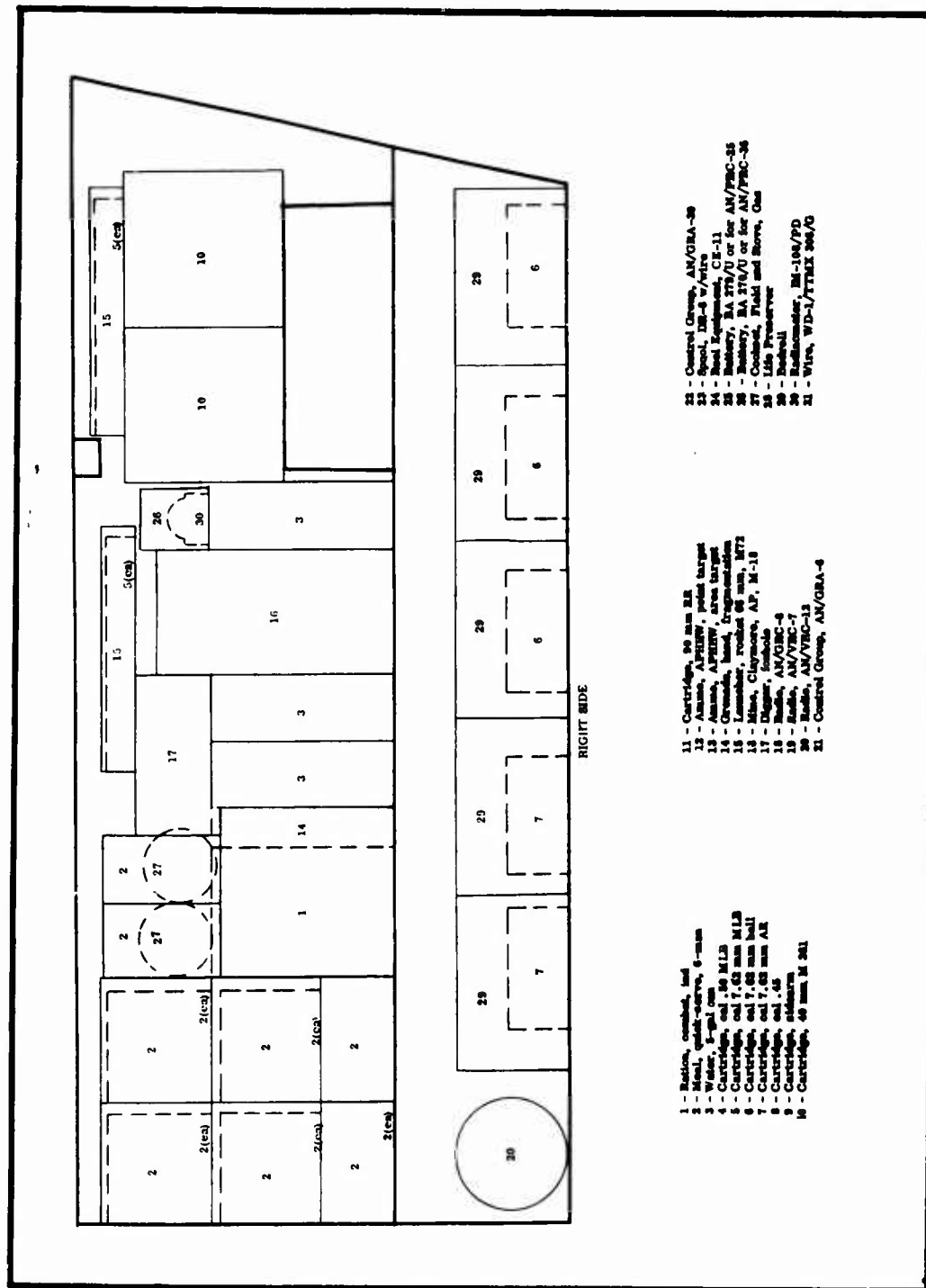


FIGURE A-7
LOADING DIAGRAM - 1ST RIFLE SQUAD CARRIER

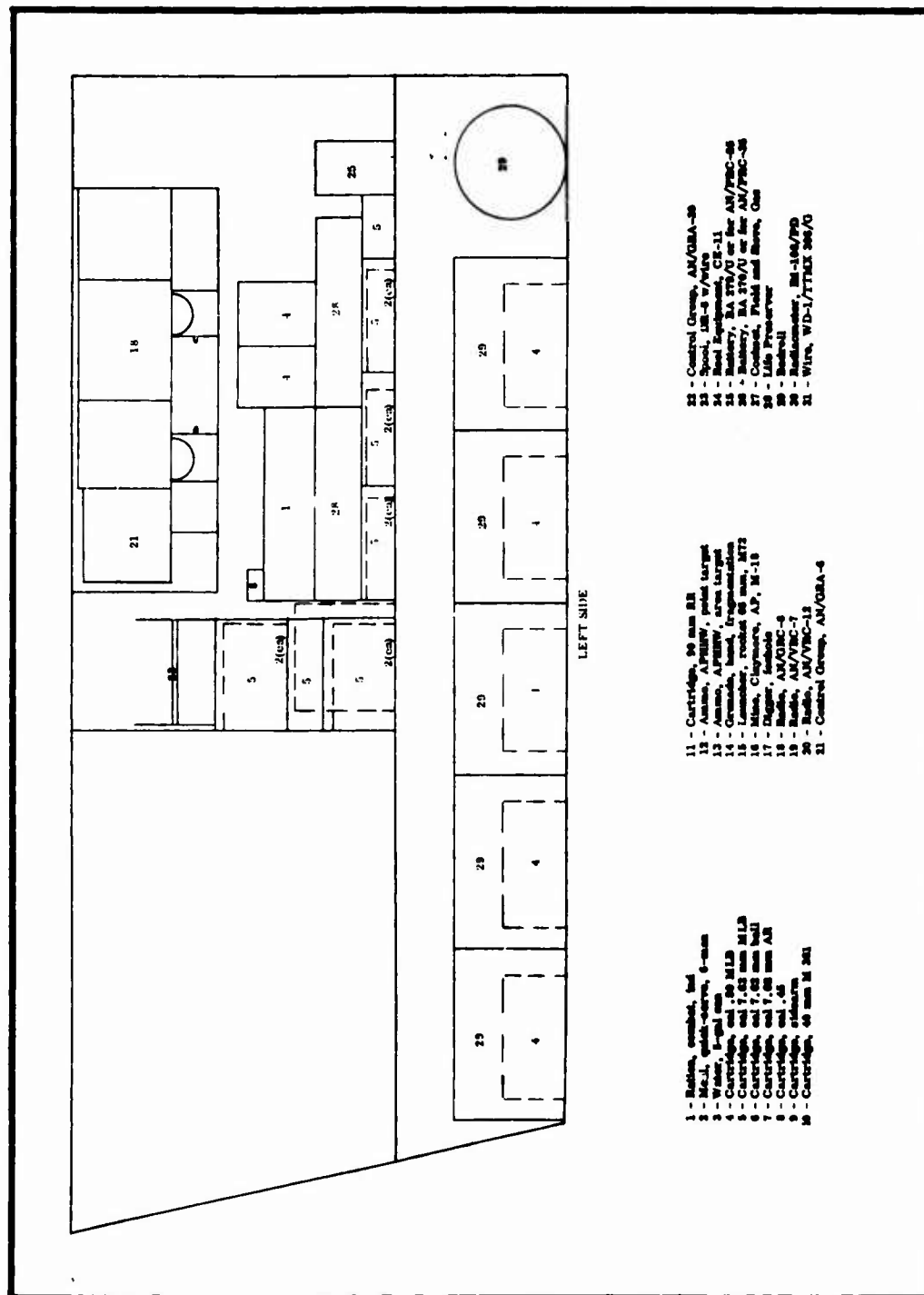


FIGURE A-8
LOADING DIAGRAM - 1ST RIFLE SQUAD CARRIER

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Number of Containers and Type	Location on Vehicle	Number of Containers and Type	Location on Vehicle
7 five-gallon water cans	Four cans are mounted on the rear and outside. Two cans are lashed to the right sponson between the case of grenades and the case of mines anti-personnel. One can is lashed between the case of mines, anti-personnel, and the battery box cover.	10 Launchers, rocket, 66 mm M72.	Five are lashed on the right sponson on top of the case of foxhole diggers and the case of mines, anti-personnel. Five are lashed on the right sponson on top of the two cases of 40 mm ammunition.
12 Cases, Meal, Quick-Serve	Ten cases are lashed on the right sponson next to the engine compartment. Two cases are lashed on the right sponson on top of the case of grenades.	3 boxes ammunition 7.62 for M-14 rifles. Each has 420 rounds	Lashed on the right rear floor of the carrier under the seats.
2 cooksets, field with stoves gasoline burner inserted in containers.	Stoves and cook sets are lashed to the bulkhead on the right sponson on top of the case of individual combat rations and in rear of the case of grenades.	2 boxes ammunition 7.62 mm for automatic rifles. Each box has 420 rounds.	Lashed on the right forward floor of the carrier under the seats.
1 case foxhole diggers containing twenty-five foxhole diggers.	Lashed on the right sponson on top of the two cases of water.	2 cases of life preservers containing six life preservers each. One additional preserver in driver compartment.	One case of life preservers is lashed on the left sponson under the case of individual combat rations and above the ammunition 7.62 mm. Another case is above the 7.62 mm ammunition on left sponson and below the cal .50 ammunition. The thirteenth life preserver is in the driver's compartment.
2 cases individual combat rations	One case is lashed on the right sponson next to the case of Meal, Quick-Serve and in rear of the case of grenades. One case is lashed on the left sponson under the radio mount and on top of the case of life preservers.	Control Group, AN/GRA6	Lashed on the radio mount to the left of the radio.
1 case mines containing six M18 mines, Claymore	Lashed on the right sponson between the water cans.	Reel Equipment CE 11 containing TS-10 and Spool DR-8 with wire	Lashed to left sponson on top of machine gun ammunition 7.62 mm to gas tank.
1 case hand grenades containing twenty-five grenades, fragmentation	Lashed on the right sponson in front of the case of individual combat rations and cook sets, field.	12 boxes of ammunition 7.62 mm for Machine Gun. Each box has two hundred rounds.	Lashed on the deck of the left sponson.
Radacometer BM-108/PD	Lashed to the bulkhead on the right sponson on top of the water can, in rear of the spare batteries and between the case of mines, anti-personnel and the case of 40 mm ammunition.	7 boxes of ammunition cal .50. Each box has one hundred rounds.	Five are lashed under the left seats. Two are lashed on top of the life preservers on the left sponson.
Batteries BA 270	Lashed in front of the Radacometer, and between the case of mines anti-personnel and the case of 40 mm ammunition on the right sponson.	1 box cal .45 ammunition. Box has fifty rounds.	Lashed above case of individual combat rations on the left sponson and below Control Group, AN/GRA6.
2 cases M-381 40 mm ammunition. Each case has seventy-two rounds.	Lashed on the right sponson on top of the battery box cover.	Batteries BA 279	Lashed to deck of left sponson next to 7.62 mm ammunition.
		12 bedrolls	Six bedrolls are placed under the right seats and six bedrolls are placed under the left seats.
		Machine Gun M-60	Strapped to the security guard seat.
		Tripod, machine gun	Lashed to top exterior of carrier.

TABLE A-6
STOWAGE AND TYPE CONTAINER - 1ST RIFLE SQUAD CARRIER

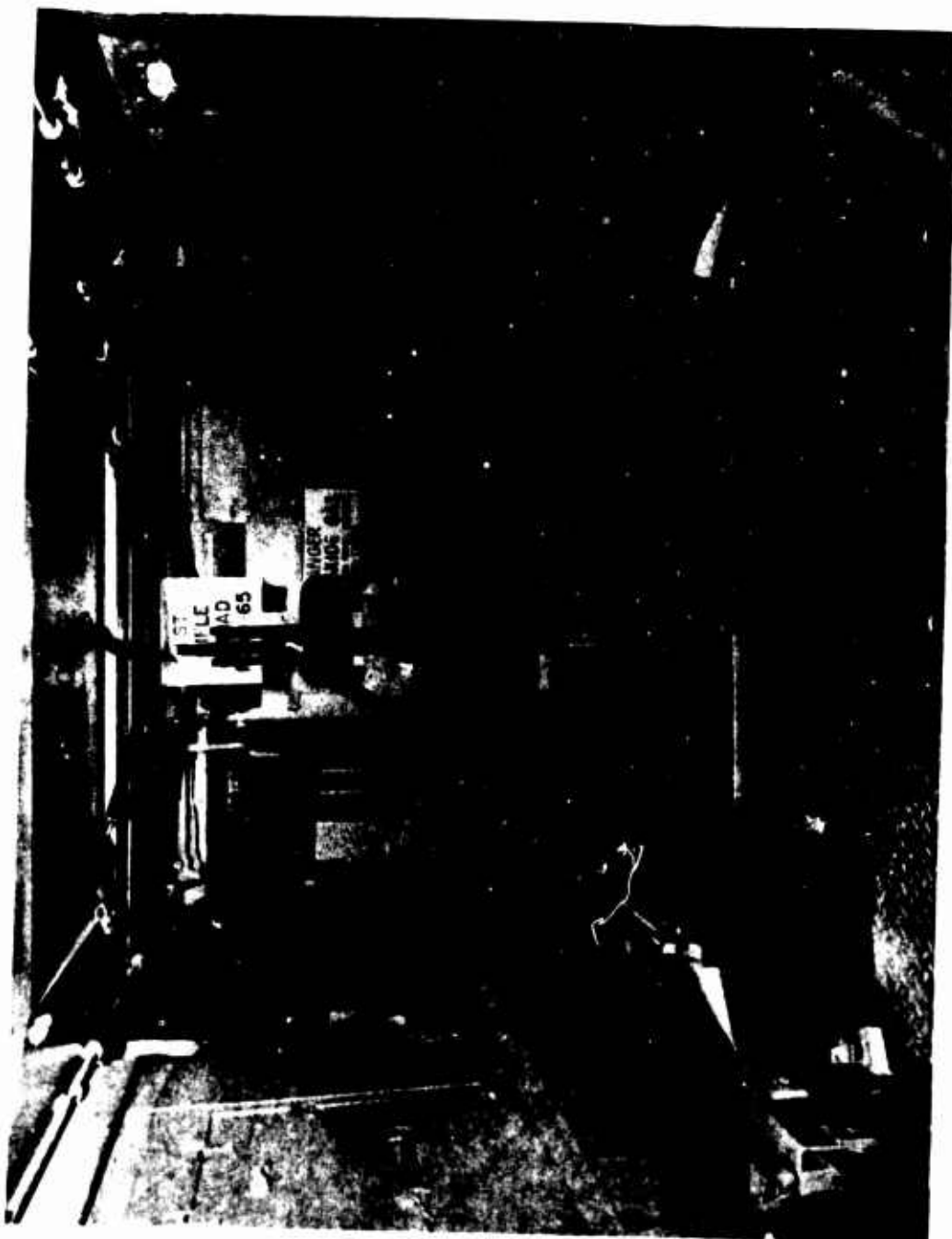


FIGURE A-9
INTERIOR VIEW (CENTER) - 1ST RIFLE SQUAD CARRIER

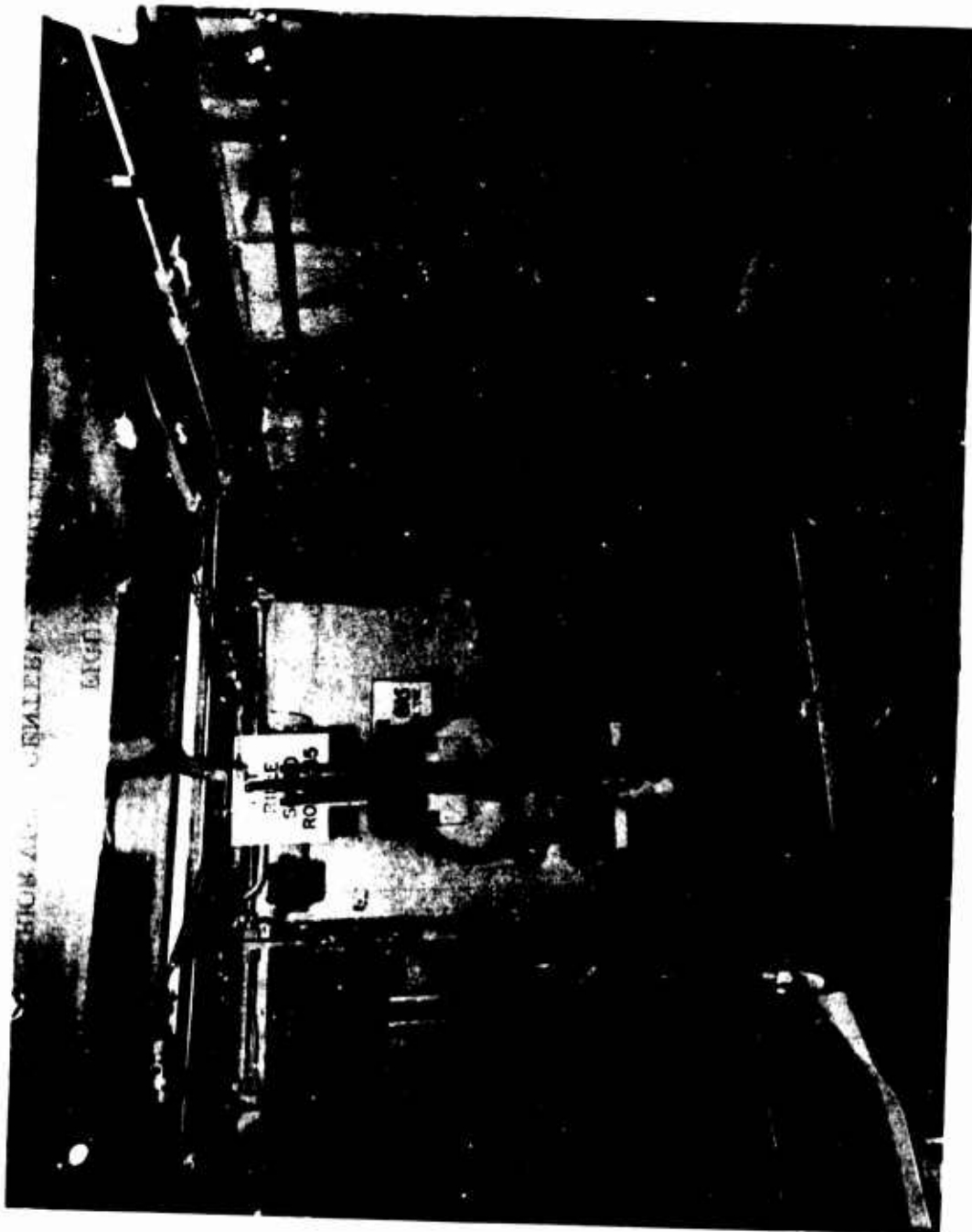


FIGURE A-10
INTERIOR VIEW (RIGHT) - 1ST RIFLE SQUAD CARRIER



FIGURE A-11
INTERIOR VIEW (LEFT) - 1ST RIFLE SQUAD CARRIER

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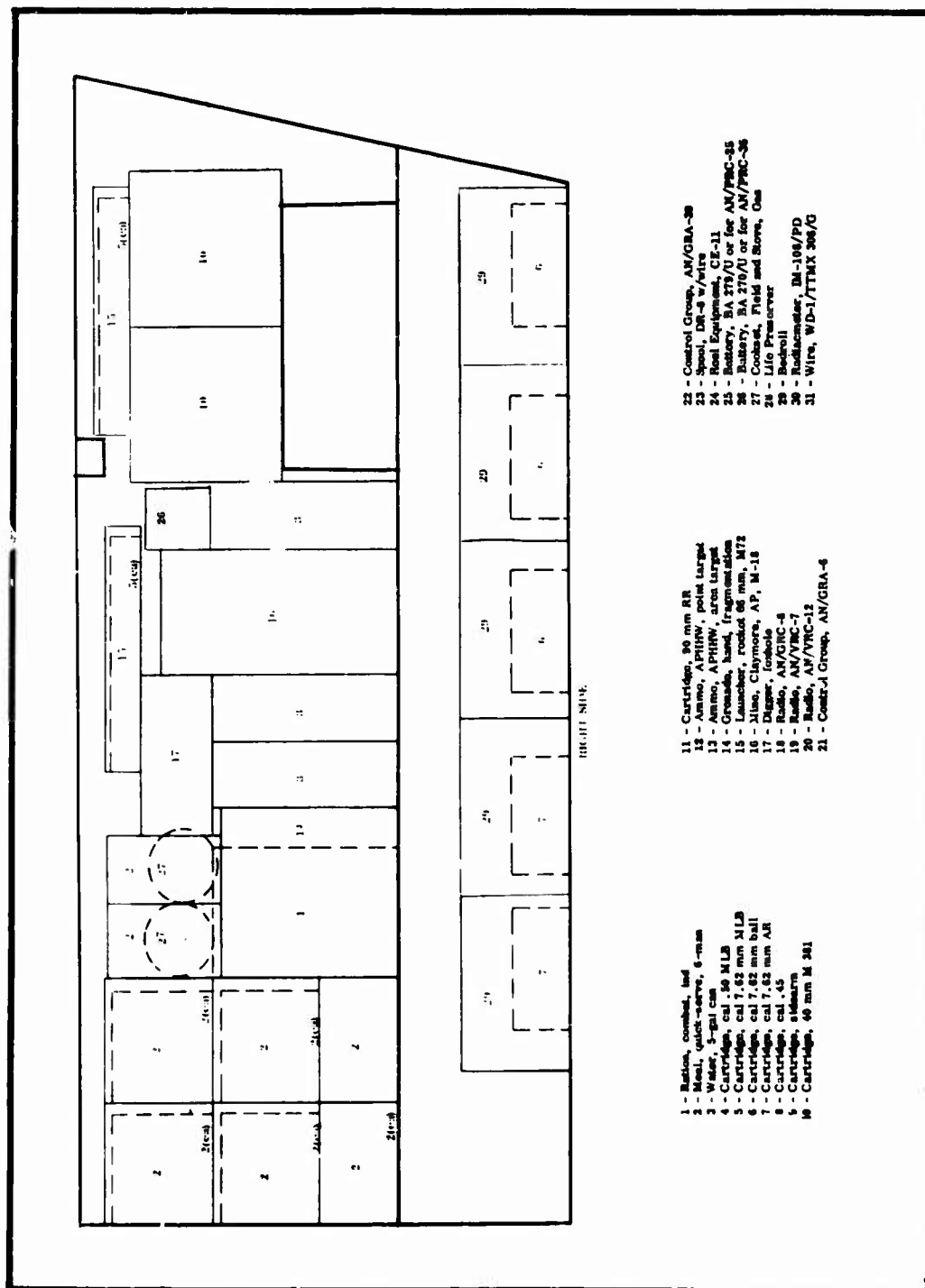


FIGURE A-12

LOADING DIAGRAM M - 2D AND 3D RIFLE SQUAD CARRIERS

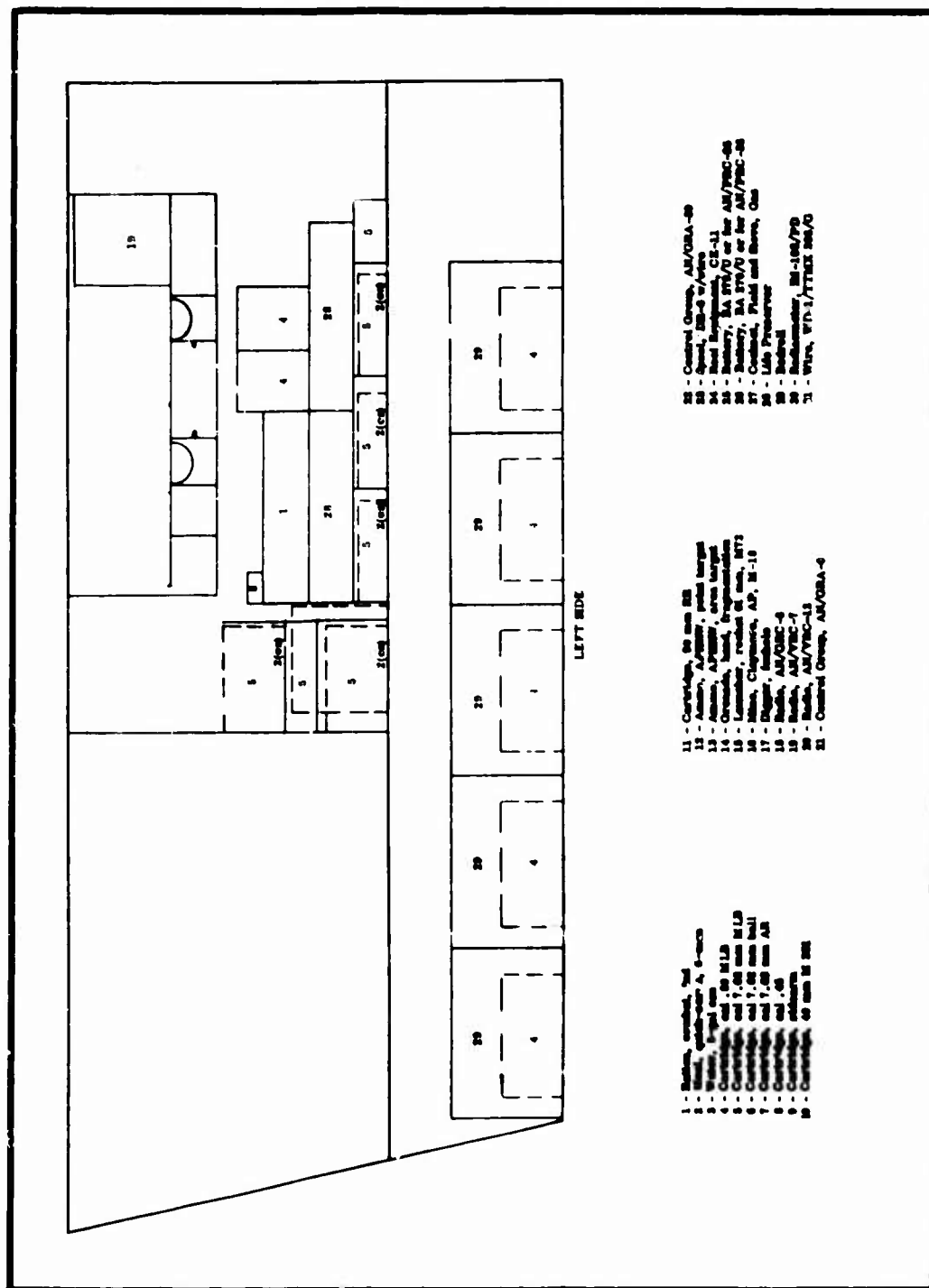


FIGURE A-13
LOADING DIAGRAM - 2D AND 3D RIFLE SQUAD CARRIERS

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Number of Containers and Type	Location on Vehicle	Number of Containers and Type	Location on Vehicle
7 five gal water cans	Four cans are mounted on the rear and outside. Two cans are lashed to the right sponson between the case of mines and personnel. One can is lashed between the case of mines and personnel and the battery box cover.	2 cases M-281 40 mm ammunition. Each case has seventy-two rounds.	Lashed on the right on the top of the battery box cover.
12 cases M-281 Quick-Serve	Ten cases are lashed on the right sponson next to the engine compartment. Two cases are lashed on the right sponson on top of the case of grenades.	10 launchers rocket, 66 mm M72	Five are lashed on the right sponson on top of the case of mines, anti-personnel. Five are lashed on the right sponson on top of the two cases of 40 mm ammunition.
2 cookstoves, field with stoves gasoline burner inserted in containers	Stoves and cook sets are lashed to the baggage on the right sponson on top of the case of individual combat rations and in rear of the case of grenades.	3 boxes of ammunition 7.62 mm for M-14 rifles. Each box has 420 rounds.	Lashed on the right rear floor of the carrier under the seats.
1 case double diggers containing twenty-five Kuchale diggers	Lashed on the right sponson on top of the two case of water.	2 boxes of ammunition 7.62 mm for automatic rifles. Each box has 420 rounds.	Lashed on the right forward floor of the carrier under the seats.
2 cases individual combat rations	One case is lashed on the right sponson next to the case of Meal, Quick-Serve and in rear of the case of grenades. One case is lashed on the left sponson under the radio mount and on top of the case of life preservers.	2 cases of life preservers containing six life preservers each.	One case of life preservers is lashed on the left sponson under the case of individual combat rations and above the ammunition 7.62 mm. Another case is lashed above the 7.62 mm ammunition on the left sponson and below the cal .50 ammunition.
1 case mines containing six M18 Claymore mines	Lashed on the right sponson between the water cans.	12 boxes of ammunition 7.62 mm for Machine Gun. Each box has 200 rounds.	Twelve (12) boxes are lashed on the deck of the left sponson.
1 case hand grenades containing twenty-five grenades, fragmentation	Lashed on the right sponson in front of the case of individual combat rations and cooksets, field.	7 boxes of ammunition cal .50. Each box has 100 rounds.	Five are lashed under the left seats. Two are lashed on top of the case of life preservers on the left sponson.
Batteries BA 270	Lashed on top of the can, water and between the case of mines anti-personnel and the case of 40 mm ammunition on the right sponson.	1 box cal .45 ammunition. Box has fifty rounds.	Lashed above case of individual combat rations on left sponson and below Control Group, AN/CRA6.
Tripod, machine gun	Tripod is lashed to top exterior of carrier	10 bedrolls	Five bedrolls are placed under the right seats. Five bedrolls are placed under the left seats.
		Machine Gun M-40	Strapped to the security guard seat.

TABLE A-7
STOWAGE AND TYPE CONTAINER - 2D AND 3D RIFLE SQUAD CARRIERS

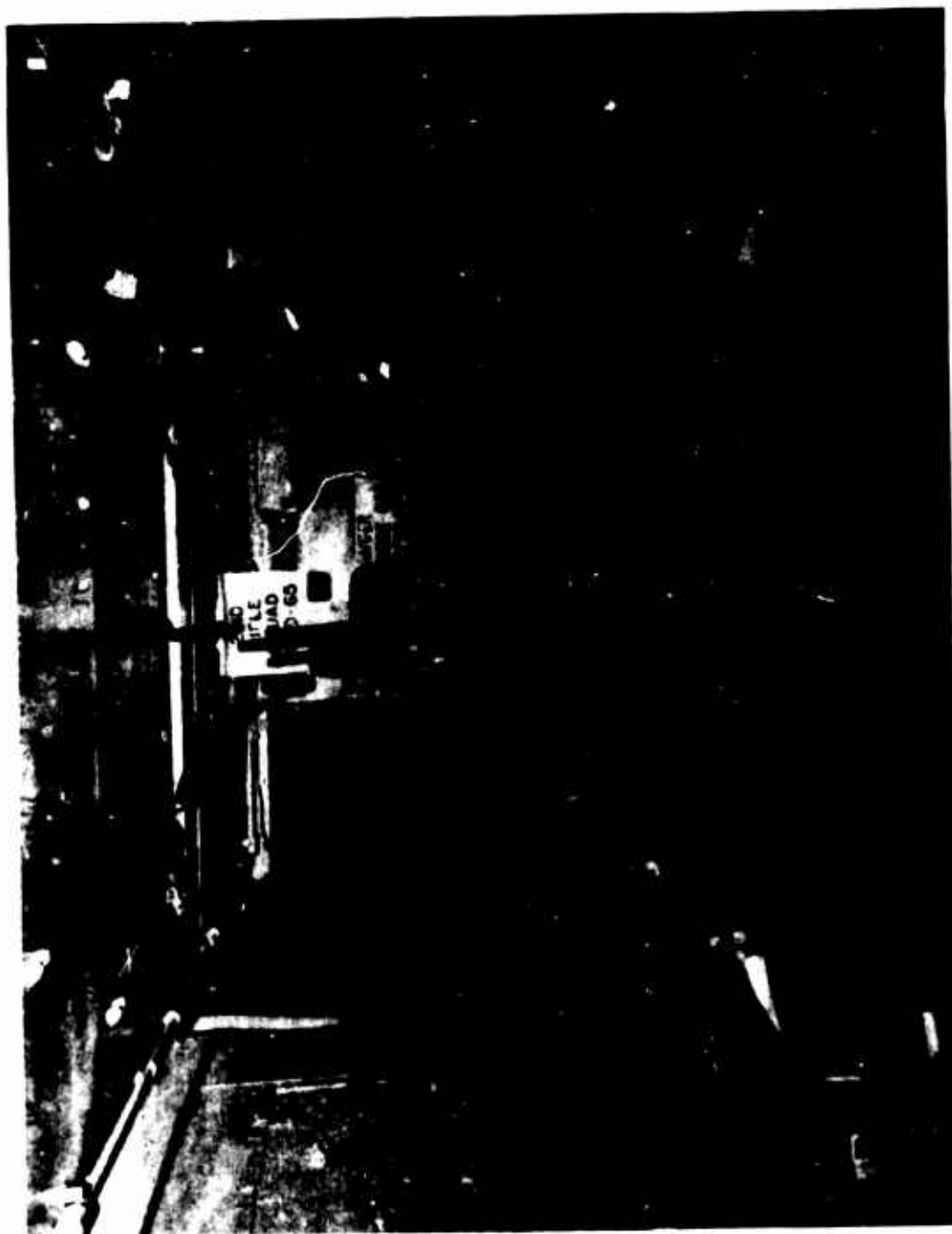


FIGURE A-14

INTERIOR VIEW (CENTER) - 2D AND 3D RIFLE SQUAD CARRIERS



FIGURE A-15
INTERIOR VIEW (RIGHT) - 2D AND 3D RIFLE SQUAD CARRIERS

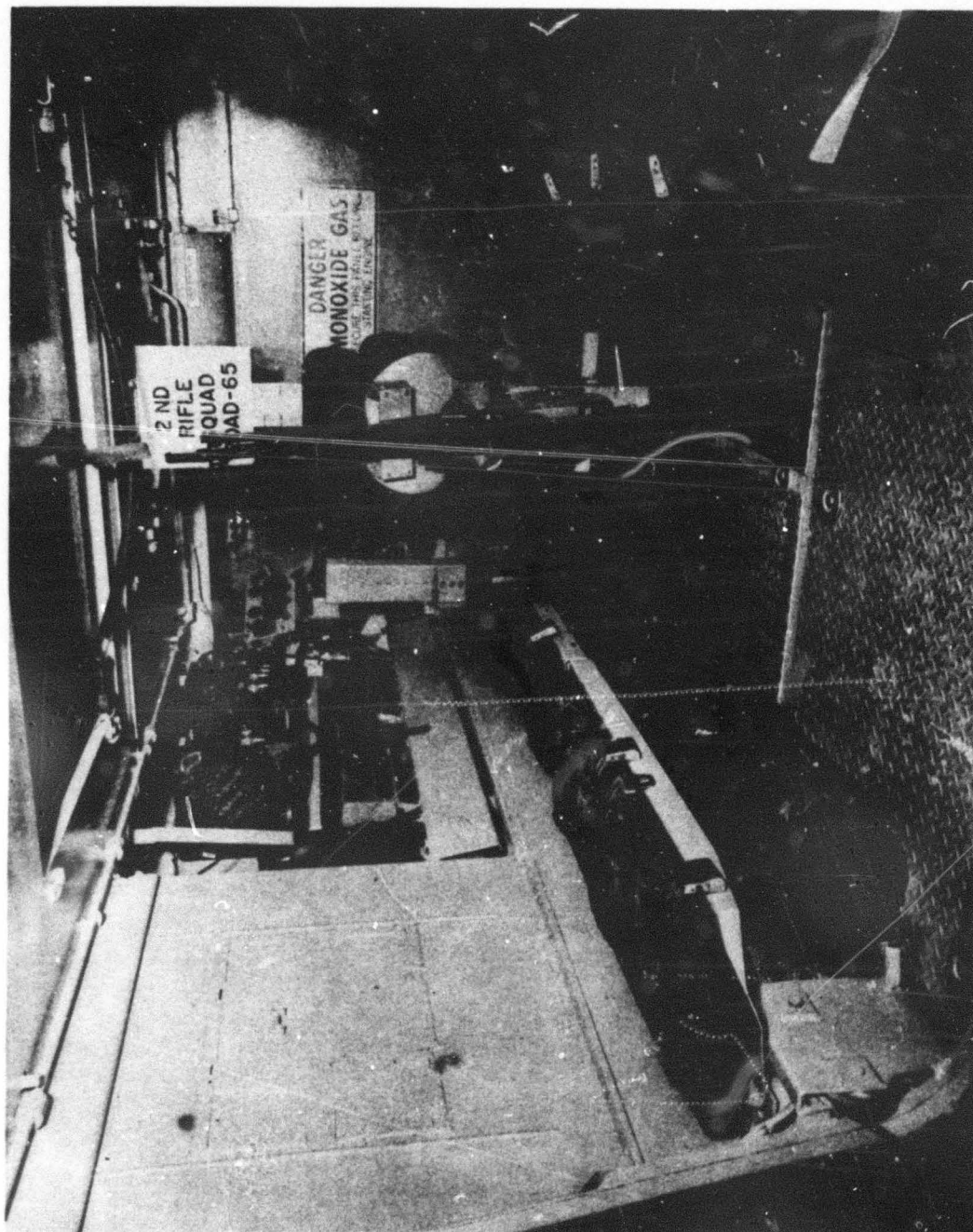


FIGURE A-16
INTERIOR VIEW (LEFT) - 2D AND 3D RIFLE SQUAD CARRIERS

APPENDIX 2
WEAPONS SQUAD
ROAD-65 MECHANIZED RIFLE PLATOON

The composition of the weapons squad of the ROAD-65 mechanized rifle platoon is as follows:

1 Squad leader	2 Asst 90 mm RR gunners
2 Machine gunners	1 Ammunition bearer
2 Asst machine gunners	1 Ammunition bearer/driver
2 90 mm RR gunners	

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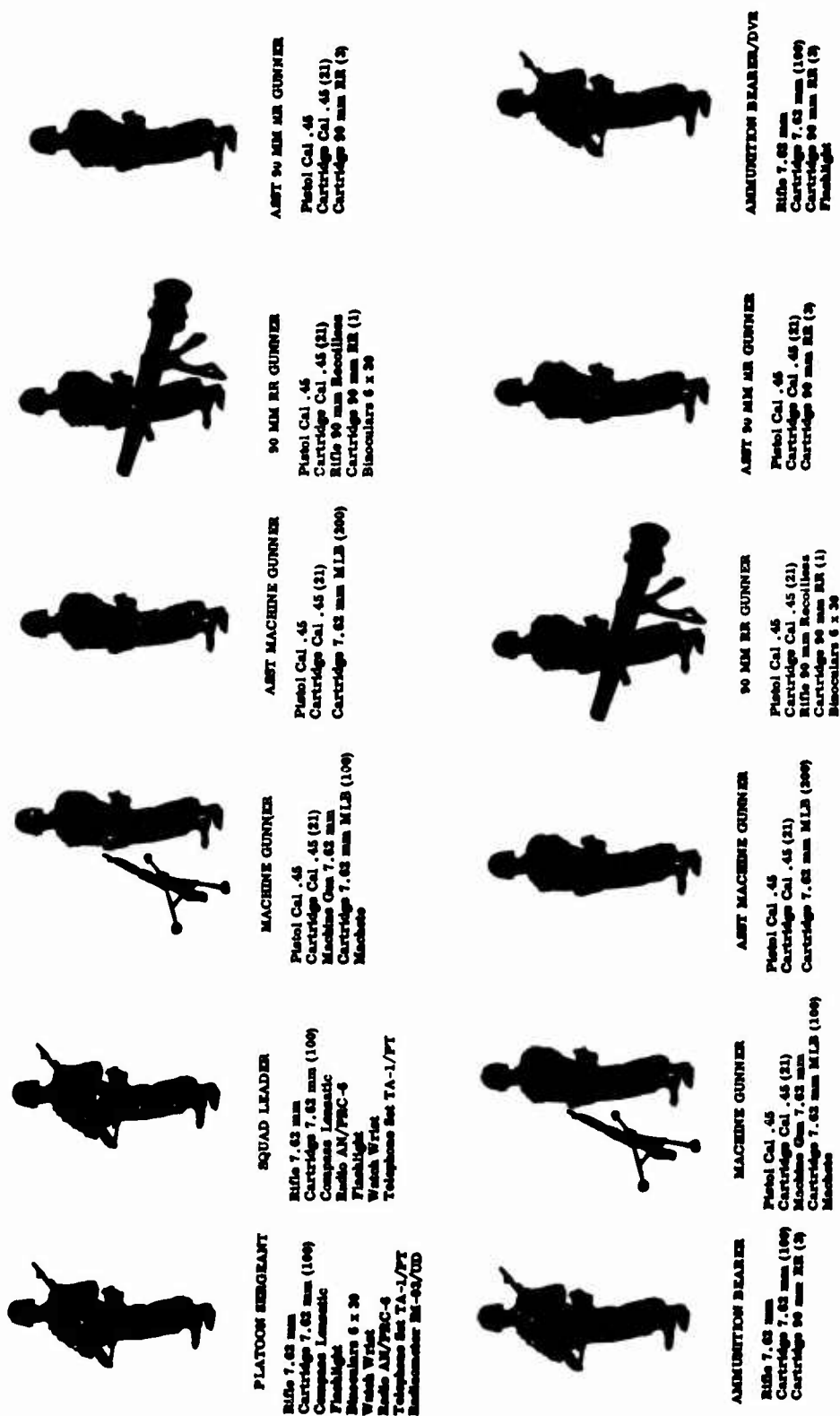


FIGURE A-17

WEAPONS SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all weapons squad personnel are listed in Table A-8, p 43.

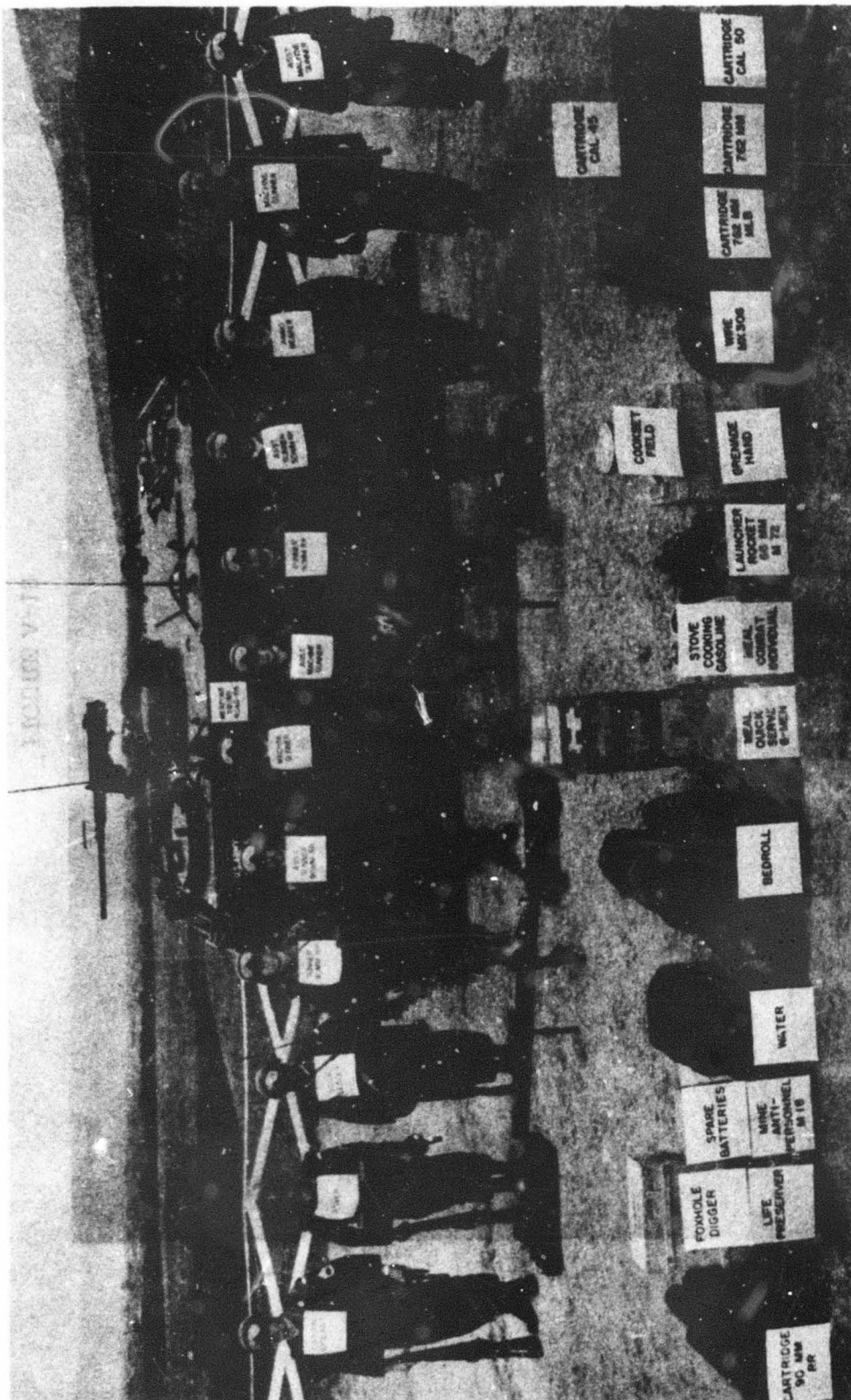


FIGURE A-18

PERSONNEL AND EQUIPMENT LOAD - WEAPONS SQUAD CARRIER

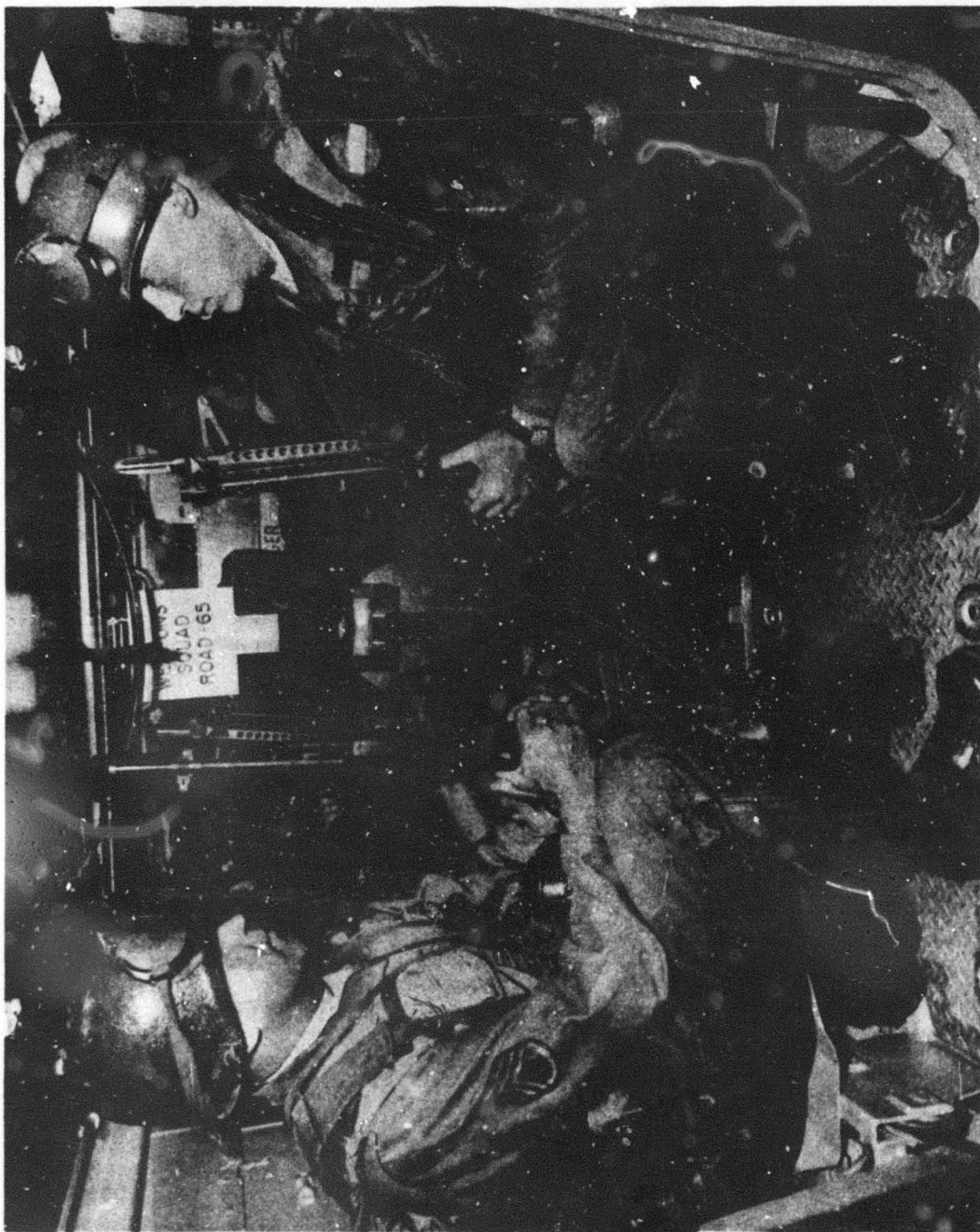


FIGURE A-19
INTERIOR VIEW - WEAPONS SQUAD CARRIER

TABLE A-8
EQUIPMENT COMMON TO ALL WEAPONS SQUAD PERSONNEL*

1. **Fighting Load**
 - a. **Load Carrying Group**
 - (1) Belt, pistol
 - (2) Suspenders, pack, field
 - (3) Case, first aid packet, w/packet
 - (4) Pouch, small arms, ammo (2)
 - (5) Carrier, intrenching tool, w/tool
 - (6) Cover, canteen, w/canteen and cup
 - (7) Bayonet knife, w/scabbard
 - (8) Grenade, hand, fragmentation (2)
 - (9) Digger, foxhole
 - b. **Clothing**
 - (1) All-purpose integrated outer garment
 - (2) Undershirt
 - (3) Drawers
 - (4) Socks
 - (5) Helmet, steel, w/liner
 - (6) Boots, combat
2. **Existence Load**
 - a. Pack, field, combat
 - b. Ration, combat, individual (1/3)
 - c. Armor, body, fragment protection
 - d. Armor, eye
 - e. Mask, protective, field
 - f. Poncho, lightweight, OD
 - g. Gloves, shell, leather, w/inserts
3. **Full Field Load**
 - a. **Extra Clothing**
 - (1) Undershirt
 - (2) Drawers
 - (3) Socks
 - b. Sleeping bag, comforter, w/carrier
 - c. Tent, shelter half, w/pins and poles
 - d. Toilet articles
 - e. Morale Kit

* Additional items peculiar to personnel in different positions are shown in Figure A-17, p 40.

TABLE A-9
ON-CARRIER EQUIPMENT LIST
WEAPONS SQUAD CARRIER

1. Communication Equipment		
a.	Radio Set, AN/GRC-8	
b.	Wire, WD-1/TT MX306	
2. Ammunition		
a.	Cartridge, 7.62mm	
	(1) Semi-automatic	(840)
	(2) Machine gun MLB	(4000)
b.	Cartridge, cal .45	(100)
c.	Cartridge, cal .50	(800)
d.	Cartridge, 90mm	(16)
e.	Grenade, hand, fragmentation	(25)
f.	Launcher, rocket, 66mm, M72	(10)
g.	Digger, foxhole	(25)
h.	Mine, Claymore, anti-personnel, M18	(6)
3. Additional Equipment		
a.	Cookset, field	(2)
b.	Stove, gasoline burner, one burner, 5500 BTU	(2)
c.	Life Preserver, yoke, gas or oral inflation w/gas cylinder	(13)
d.	Can, water, military, 5-gal	(7)
e.	Meal, quick-serve, 6-man	(12 cases)
f.	Ration, combat, individual	(2 cases)
g.	Batteries, BA 279/U	(2)
h.	Tripod, machine gun	(2)

TABLE A-10
WEIGHT DISTRIBUTION
WEAPONS SQUAD CARRIER

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
12	Case	Meal, quick-serve, 6-man	9.5	85.5	28.5
2	Case	Ration, combat, individual	25	50	
1	Case	Digger, foxhole	25	35	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
1	Case	Mine, Claymore, anti-personnel M18	18	18	
2	Box	Cartridge, 7.62mm (A130)	34	68	
20	Box	Cartridge, 7.62mm (A127)	17		340
2	Box	Cartridge, cal .45	3		6
7	Box	Cartridge, cal .50	37	74	185
10	Each	Launcher, rocket, 66mm, M72	4.5	27	18
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3		6
2	Each	Cookset, field	2		4
7	Each	Can, water, military, 5-gal	50	250	100
4	Each	Battery, BA 270/U	2	8	
13	Each	Life Preserver, yoke, gas or oral inflation, w/gas cylinder	4.5	54	4.5
1	Each	Mount, MT 297	58		58
1	Each	Radio, AN/GRC-8	137		137
16	Round	Cartridge, 90mm, RR	9.9	152	
1	Each	Wire, WD-1/TT MX 306	25		25
CARGO WEIGHT EACH SIDE				879.3	912.0
TOTAL CARGO WEIGHT					1,791.3

Above weights do not include combat equipped individuals. For computing individual weights, an average weight of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

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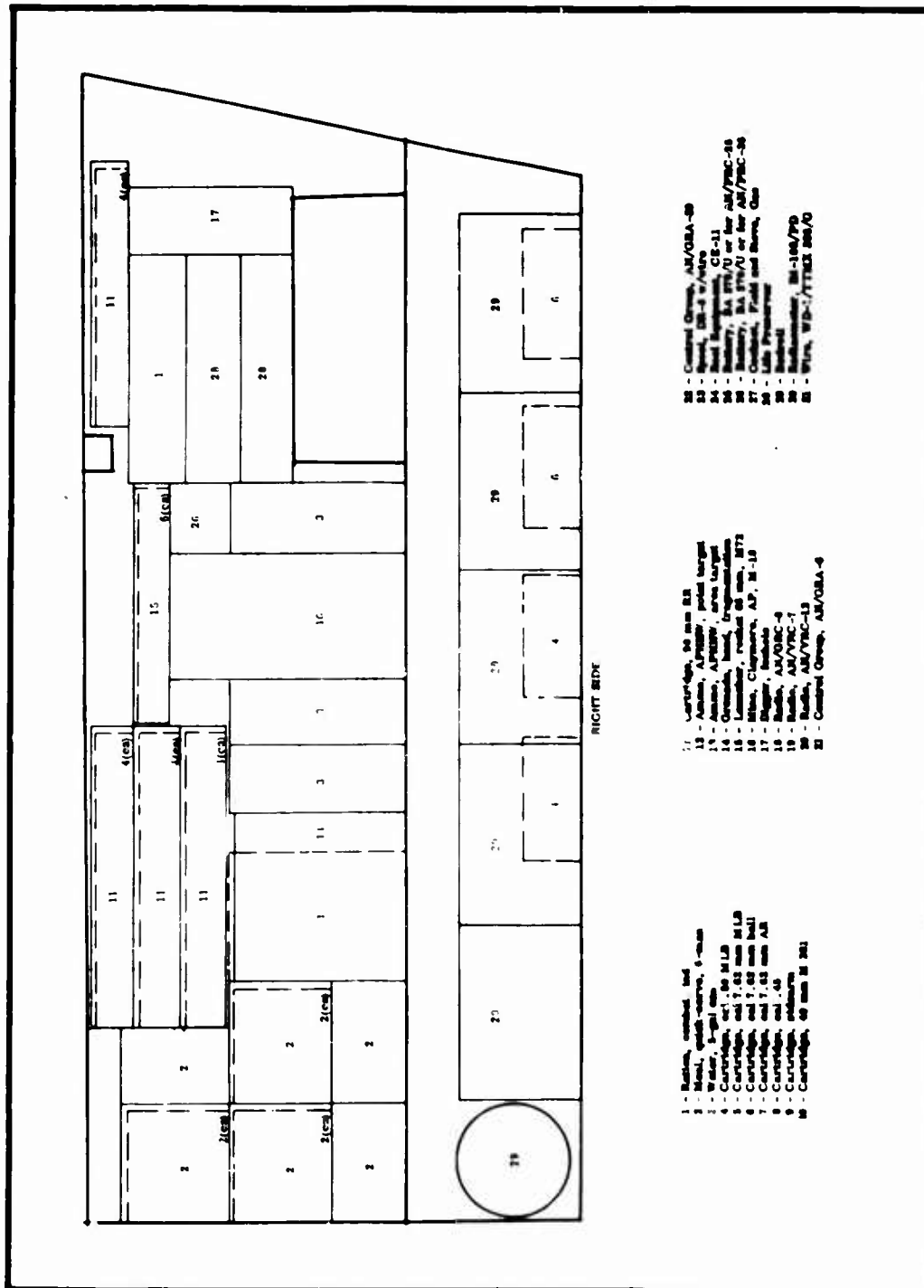


FIGURE A-20
LOADING DIAGRAM - WEAPONS SQUAD CARRIER

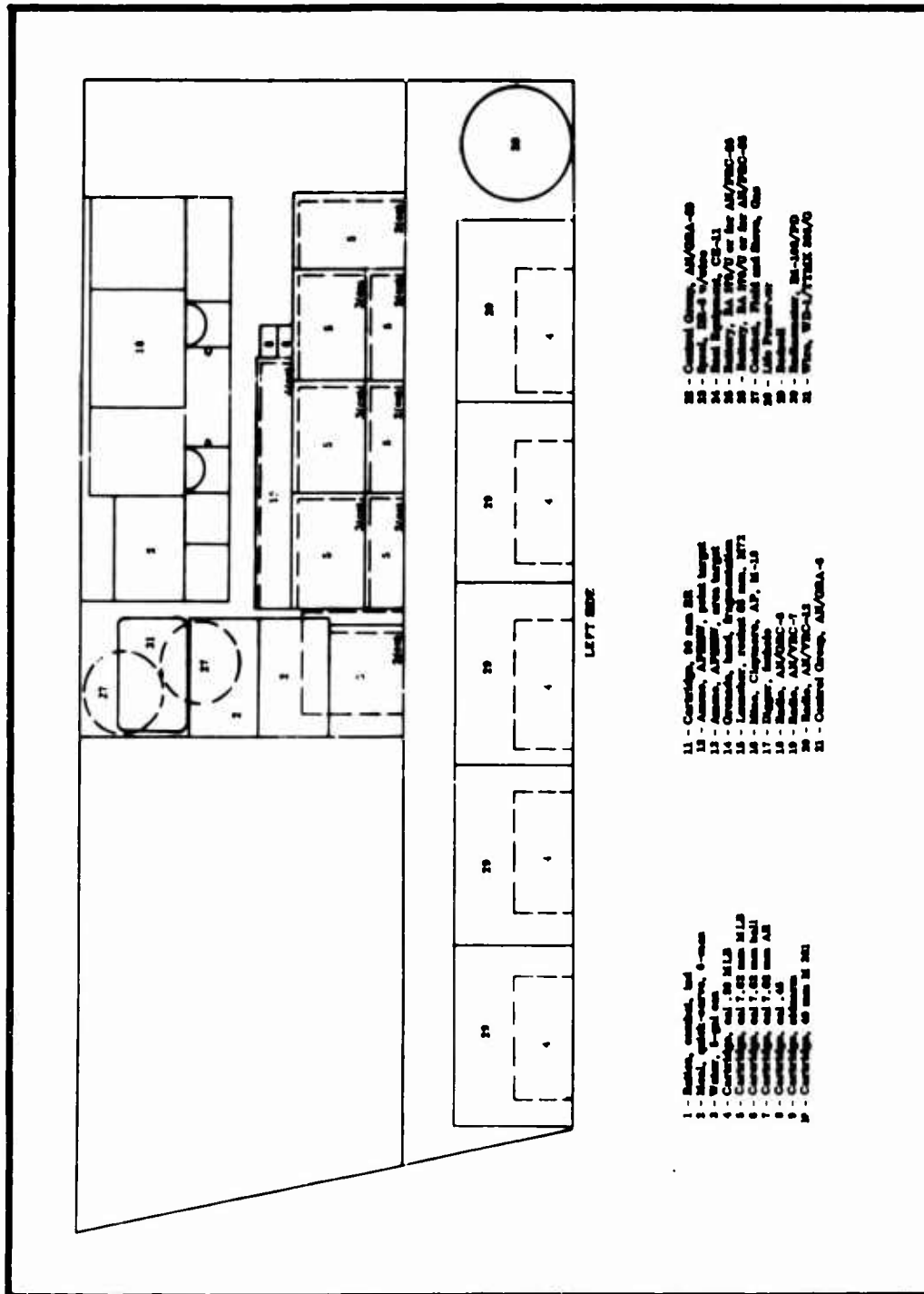


FIGURE A-21
LOADING DIAGRAM - WEAPONS SQUAD CARRIER

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Number of Containers and Type	Location on Vehicle	Number of Containers and Type	Location on Vehicle
7 five-gal water cans	Four cans are mounted on the rear, outside. Two cans are lashed to the right sponson between the case of grenades and the case of mines and personnel. One can is lashed between the case of mines, anti-personnel and the battery box cover.	1 case of Batteries, BA/270	Lashed on top of the water can and between the case of mines, anti-personnel and the case of life preservers.
12 cases Meal, Quick-Serve	Nine cases are lashed on the right sponson next to the engine compartment. Two cases are lashed on the left sponson above the 7.62 mm ammunition sent to the gas tank. One case is strapped to the left of the radio on the radio mount.	2 cases of life preservers containing six life preservers each.	Lashed on top of the battery box cover on the right sponson and between the case of water and the case of foxhole diggers. The third life preserver is in the driver's compartment.
2 cases of Individual Combat Rations	One case is lashed on the right sponson next to the case of Meal, Quick-Serve and in the rear of the case of grenades. One case is lashed to the right sponson between the Launcher, rocket, 66 mm, M72 and the case of foxhole diggers and on top of the life preservers.	1 case foxhole diggers containing twenty-five foxhole diggers.	Lashed on the right sponson beside the case of life preservers and on top of the battery box cover.
1 case of hand grenades containing twenty-five grenades, fragmentation.	Lashed on the right sponson in front of the case of individual combat rations.	2 cocksets, field with stoves, gasoline inserted in containers	Stoves and cocksets are lashed on the left sponson above the case of Meal Quick-Serve, in rear of wire, MX306 and between the gas tank and the radio mount.
1 case mines containing six M18 Claymore mines.	Lashed on the right sponson between the water cans.	20 boxes of ammunition 7.62 mm for Machine Guns. Each box has 200 rounds.	Lashed on the deck of the left sponson.
16 rounds of 90 mm RR ammunition	Twelve rounds are lashed on the right sponson above the case of Individual Combat Rations, the case of hand grenades and water cans and between the case of Meal Quick-Serve and the Launchers, rocket 66 mm, M72. Four rounds are lashed above the case of Individual Combat Rations and the case of foxhole diggers on the right sponson.	2 boxes of .45 ammunition. Each box has fifty rounds.	Lashed on left sponson above the 7.62 mm ammunition and next to the Launchers, rocket, 66 mm, M72.
10 Launchers, rocket, 66 mm M72	Six are lashed on the right sponson above the case of mines, anti-personnel and the spare batteries, BA/270. Four are lashed on the left sponson above the 7.62 mm ammunition and below the radio mount.	7 boxes of ammunition cal .50. Each box has 100 rounds.	Five are lashed under the left seats. Two are lashed under the forward right seats.
		12 bedrolls	Six bedrolls are placed under the right seats. Six bedrolls are placed under the left seats.
		Wire, MX306	Lashed on the left sponson in front of the cocksets, field and on top of the case of Meal, Quick-Serve.
		2 boxes of ammunition 7.62 mm for M-14 rifles. Each box has 420 rounds.	Lashed on the right rear floor of the carrier under the seats.
		2 Tripods, Machine Gun	Lashed to top exterior of carrier.

TABLE A-11
STOWAGE AND TYPE CONTAINER: - WEAPONS SQUAD CARRIER

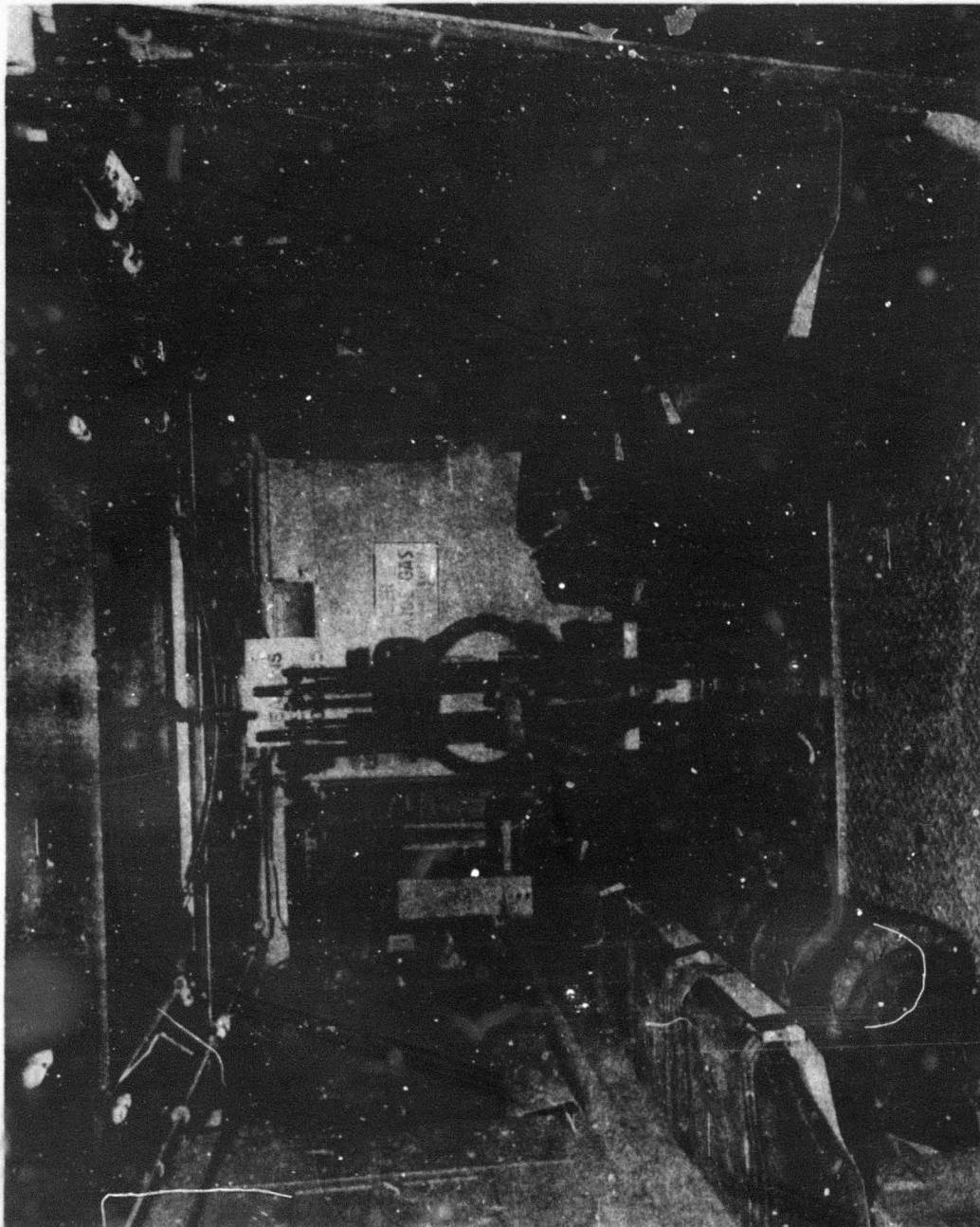


FIGURE A-22
INTERIOR VIEW (CENTER) - WEAPONS SQUAD CARRIER

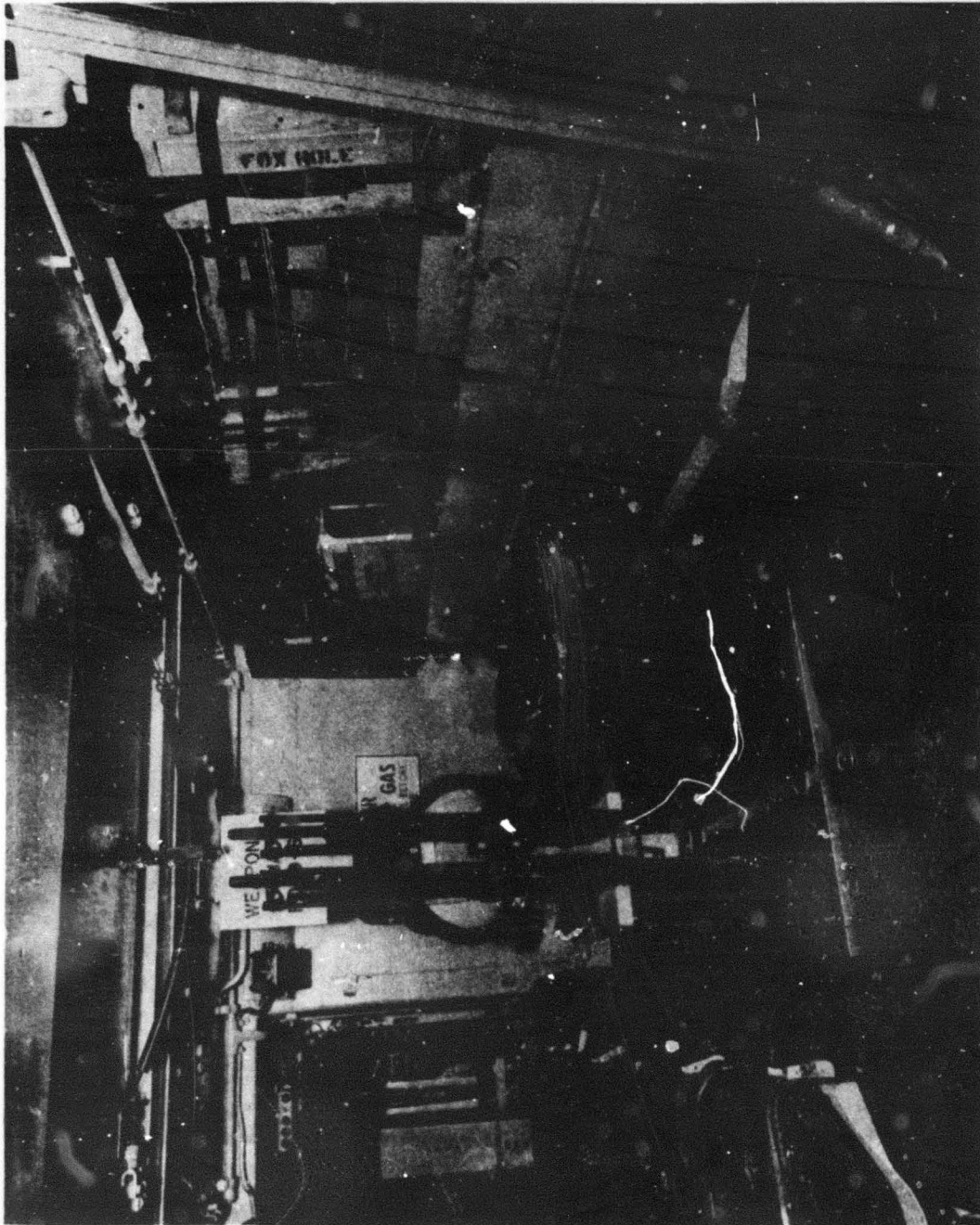


FIGURE A-23
INTERIOR VIEW (RIGHT) - WEAPONS SQUAD CARRIER

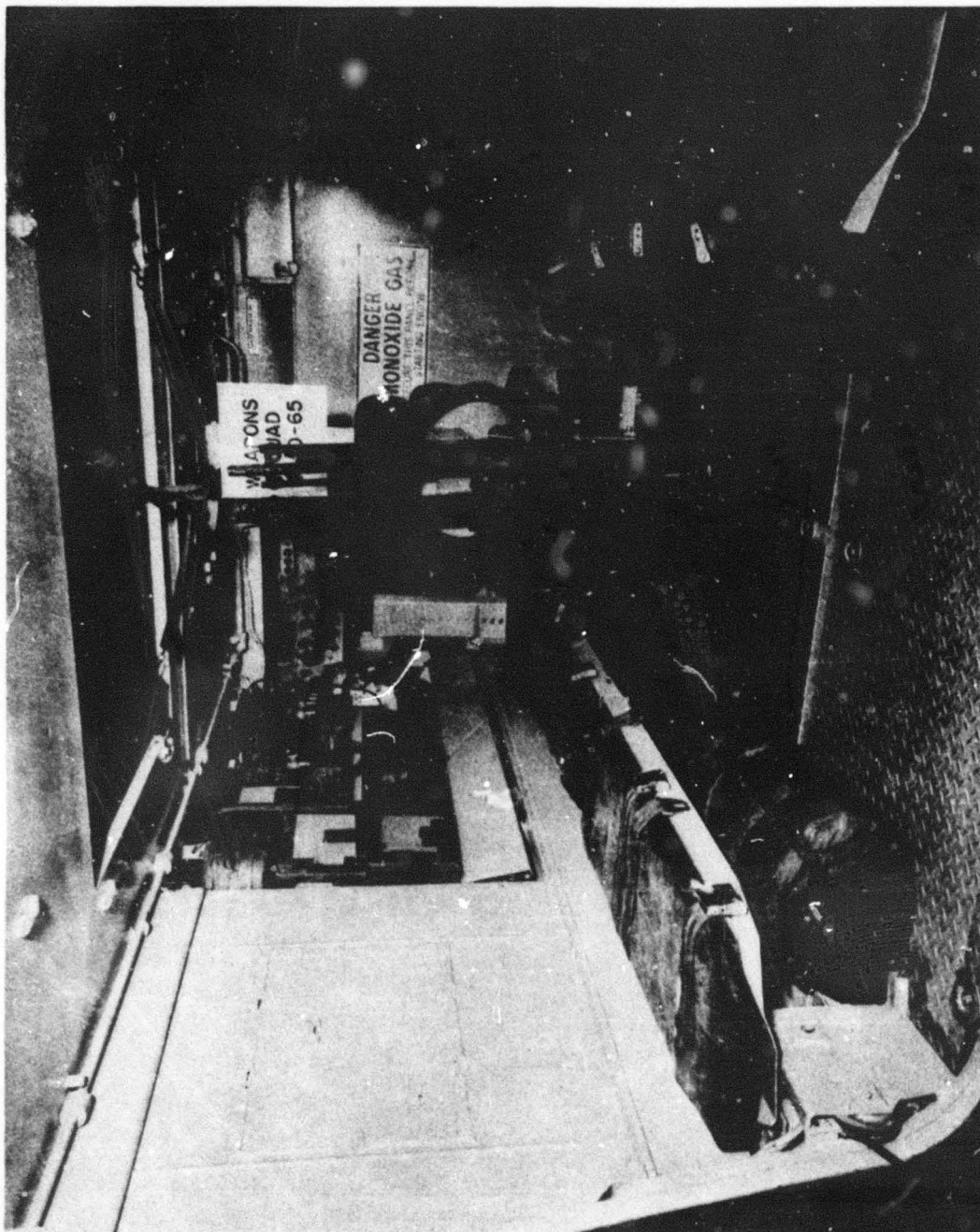


FIGURE A-24
INTERIOR VIEW (LEFT) - WEAPONS SQUAD CARRIER

Annex B

LOADING PLAN FOR OPTIMUM MECHANIZED RIFLE PLATOON

1. The USA CDEC optimum mechanized rifle platoon consists of four twelve-man rifle squads and a five-man platoon headquarters. Each squad and the platoon headquarters is equipped with an M113 APC.

2. In accordance with doctrine contained in FM 17-20 the platoon sergeant was placed in the carrier of the fourth rifle squad so that all key members of the platoon headquarters would not be in one vehicle. Squad and headquarters composition, job titles, equipment, weapons, ammunition, stowage diagrams, and photographs are shown in Appendixes 1 and 2, following.

3. Basic "off-carrier" requirements for personal equipment were determined by ascertaining what the individual required to be self sufficient in combat for twenty-four hours of dismounted action.

4. Equipment requirements were developed in conjunction with the Optimum Composition of the Rifle Squad and Platoon Experiment. The equipment lists were based on existing requirements, military experience and judgment, and equipment assumed to be available during the 1965-70 period.

5. Rations used allow a three-day balanced diet for each individual. A combination of quick-serve meals and individual combat rations was selected; the ratio being two quick-serve meals to one individual combat ration. Other combinations of the two rations would produce comparable results since both types have approximately the same volume.

APPENDIX I

PLATOON HEADQUARTERS OPTIMUM MECHANIZED RIFLE PLATOON

The composition of the platoon headquarters of the optimum mechanized rifle platoon is as follows:

- | | |
|------------------------------|----------------------------|
| 1 Platoon leader | 1 Radio operator/messenger |
| 1 Platoon sergeant | 1 Driver |
| 1 Assistant platoon sergeant | |

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FIGURE B-1

PLATOON HEADQUARTERS CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all platoon headquarters personnel are listed in Table B-1, p 59.



FIGURE B-2

PERSONNEL AND EQUIPMENT LOAD - PLATOON HEADQUARTERS CARRIER

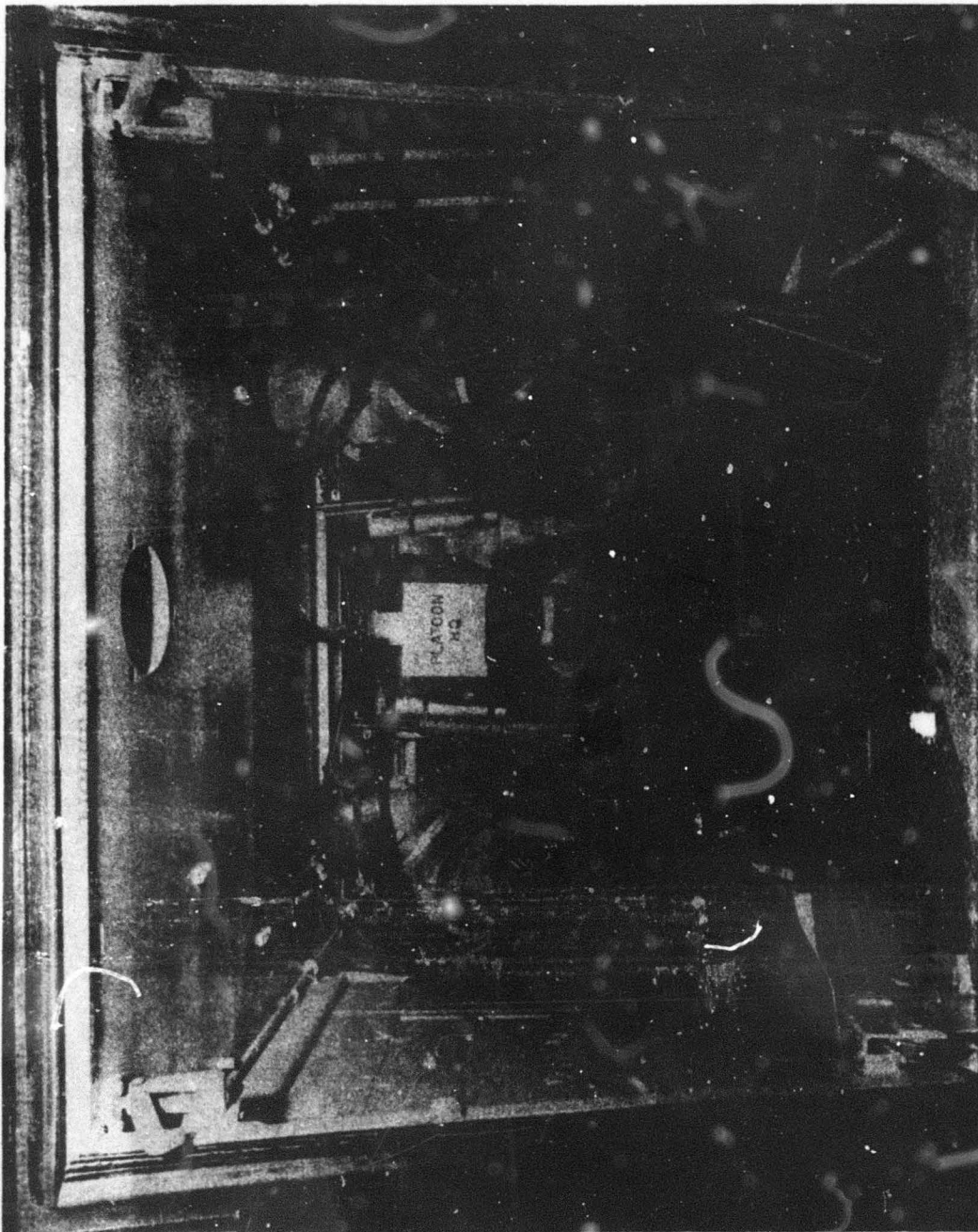


FIGURE B-3
INTERIOR VIEW - PLATOON HEADQUARTERS CARRIER

TABLE B-1
EQUIPMENT COMMON TO ALL PLATOON HEADQUARTERS PERSONNEL*

1. **Fighting Load**
 - a. **Load Carrying Group**
 - (1) Belt, pistol
 - (2) Suspenders, pack, field
 - (3) Case, first aid packet, w/packet
 - (4) Pouch, small arms, ammo (2)
 - (5) Carrier, intrenching tool, w/tool
 - (6) Cover, canteen, w/canteen and cup
 - (7) Bayonet knife, w/scabbard
 - (8) Grenade, hand, fragmentation (2)
 - (9) Digger, foxhole
 - b. **Clothing**
 - (1) All-purpose integrated outer garment
 - (2) Undershirt
 - (3) Drawers
 - (4) Socks
 - (5) Helmet, steel, w/liner
 - (6) Boots, combat
2. **Existence Load**
 - a. Pack, field, combat
 - b. Ration, combat, individual (1/3)
 - c. Armor, body, fragment protection
 - d. Armor, eye
 - e. Mask, protective, field
 - f. Poncho, lightweight, OD
 - g. Gloves, shell, leather, w/inserts
3. **Full Field Load**
 - a. **Extra Clothing**
 - (1) Undershirt
 - (2) Drawers
 - (3) Socks
 - b. Sleeping bag, comforter, w/carrier
 - c. Tent, shelter half, w/pins and poles
 - d. Toilet articles
 - e. Morale Kit

* Additional items peculiar to personnel in different positions are shown in Figure B-1, p 56.

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TABLE B-2
ON-CARRIER EQUIPMENT LIST
PLATOON HEADQUARTERS CARRIER

- | | | |
|-----------------------------------|---|-----------|
| 1. Communication Equipment | | |
| a. | Radio Set, AN/VRC-12 | |
| b. | Control Group, AN/GRA-39 | |
| c. | Reel Equipment, CE-11 w/wire | |
| d. | Wire, WD-1/TT MX306 | |
| 2. Ammunition | | |
| a. | APHHW, point target | (2400) |
| b. | APHHW, area target | (96) |
| c. | Cartridge, sidearm | (50) |
| d. | Cartridge, cal .50 | (800) |
| e. | Grenade, hand, fragmentation | (25) |
| f. | Digger, foxhole | (25) |
| g. | Launcher, rocket, 66mm, M72 | (10) |
| h. | Mine, Claymore, anti-personnel, M18 | (6) |
| 3. Additional Equipment | | |
| a. | Cookset, field | (2) |
| b. | Stove, gasoline burner, one burner,
5500 BTU | (2) |
| c. | Life Preserver, yoke, gas or oral
inflation w/gas cylinder | (6) |
| d. | Can, water, military, 5-gallon | (9) |
| e. | Meal, quick-serve, 6-man | (6 cases) |
| f. | Ration, combat, individual | (1 case) |
| g. | Batteries, radio | (6) |
| h. | Radiacmeter, IM-108/PD | (1) |

TABLE B-3
WEIGHT DISTRIBUTION
PLATOON HEADQUARTERS CARRIER

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
6	Case	Meal, quick-serve, 6-man	9.5	47.5	9.5
1	Case	Ration, combat, individual	25	25	
1	Case	Digger, foxhole	25	25	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
1	Case	Mine, Claymore, anti-personnel, M18	18	18	
20	Box	Cartridge, 7.62mm, MLB (A127)	17		340
1	Box	Cartridge, sidearm	3*		3*
7	Box	Cartridge, cal .50	37	74	185
2	Box	Ammunition, APHFW, point target	25*	50*	
1-1/3	Box	Ammunition, APHFW, area target	58*	77*	
10	Each	Launcher, rocket, 66mm, M72	4.5	27	18
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3		5
2	Each	Cookset, field	2		4
9	Each	Can, water, military, 5-gal	50	350	100
2	Each	Battery, radio	4*	8*	
4	Each	Battery, radio	2*		8*
6	Each	Life Preserver, yoke, gas or oral inflation w/gas cylinder	4.5	27	
1	Each	Mount, radio	58*		58*
1	Each	Radio, AN/VRC-12	137*		137*
1	Each	Control Group, AN/GRA-39	28		28
1	Each	Reel, equipment, CE-11 w/wire	18		18
1	Each	Wire, WD-1/TT MX306	25	25	
1	Each	Radiacmeter, IM-108/PD	4		4
CARGO WEIGHT EACH SIDE				811.3	918.5
TOTAL CARGO WEIGHT					1,729.8

Above weights do not include combat equipped individuals. For computing individual weights, an average weight of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

* Estimated

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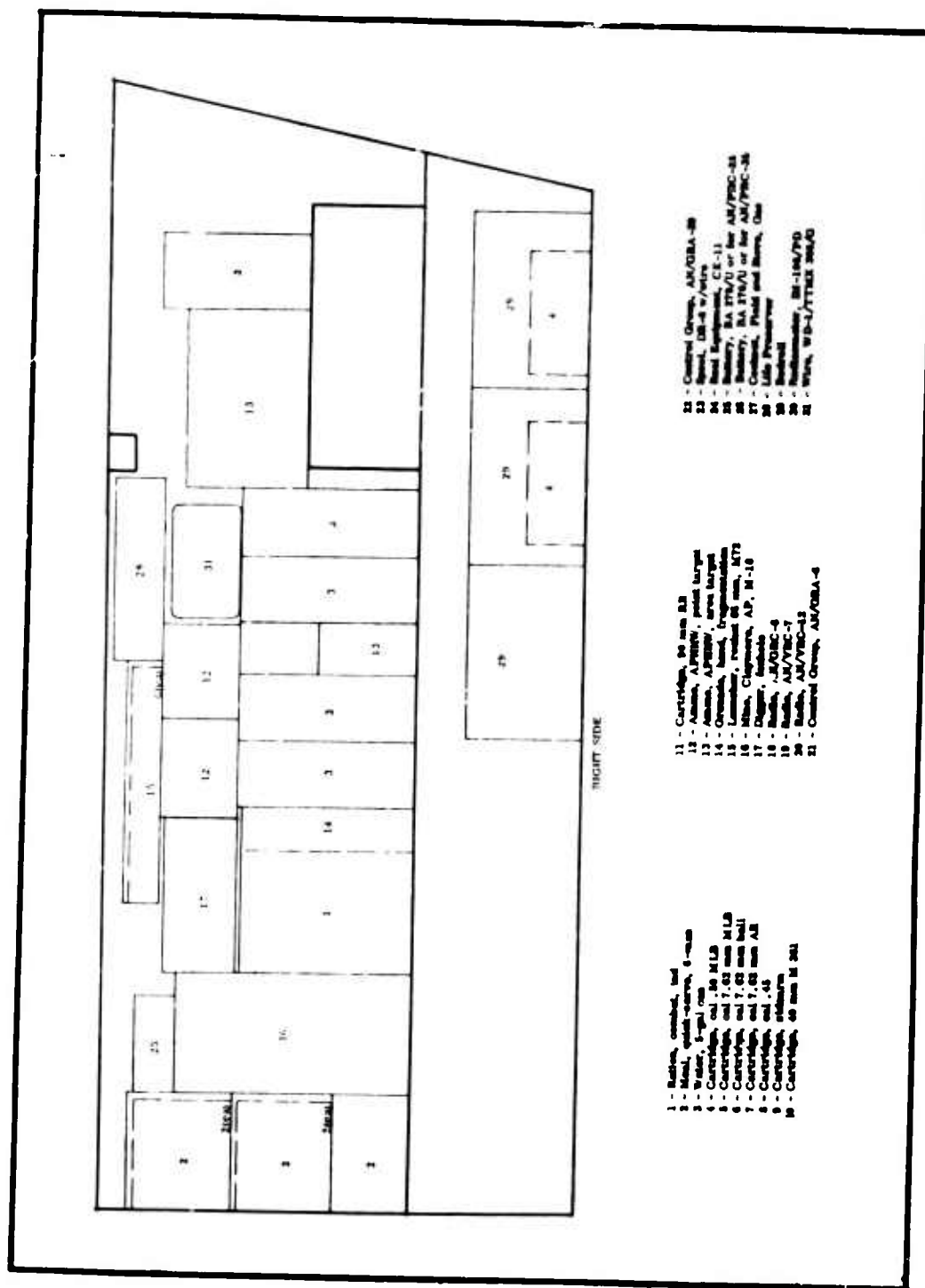
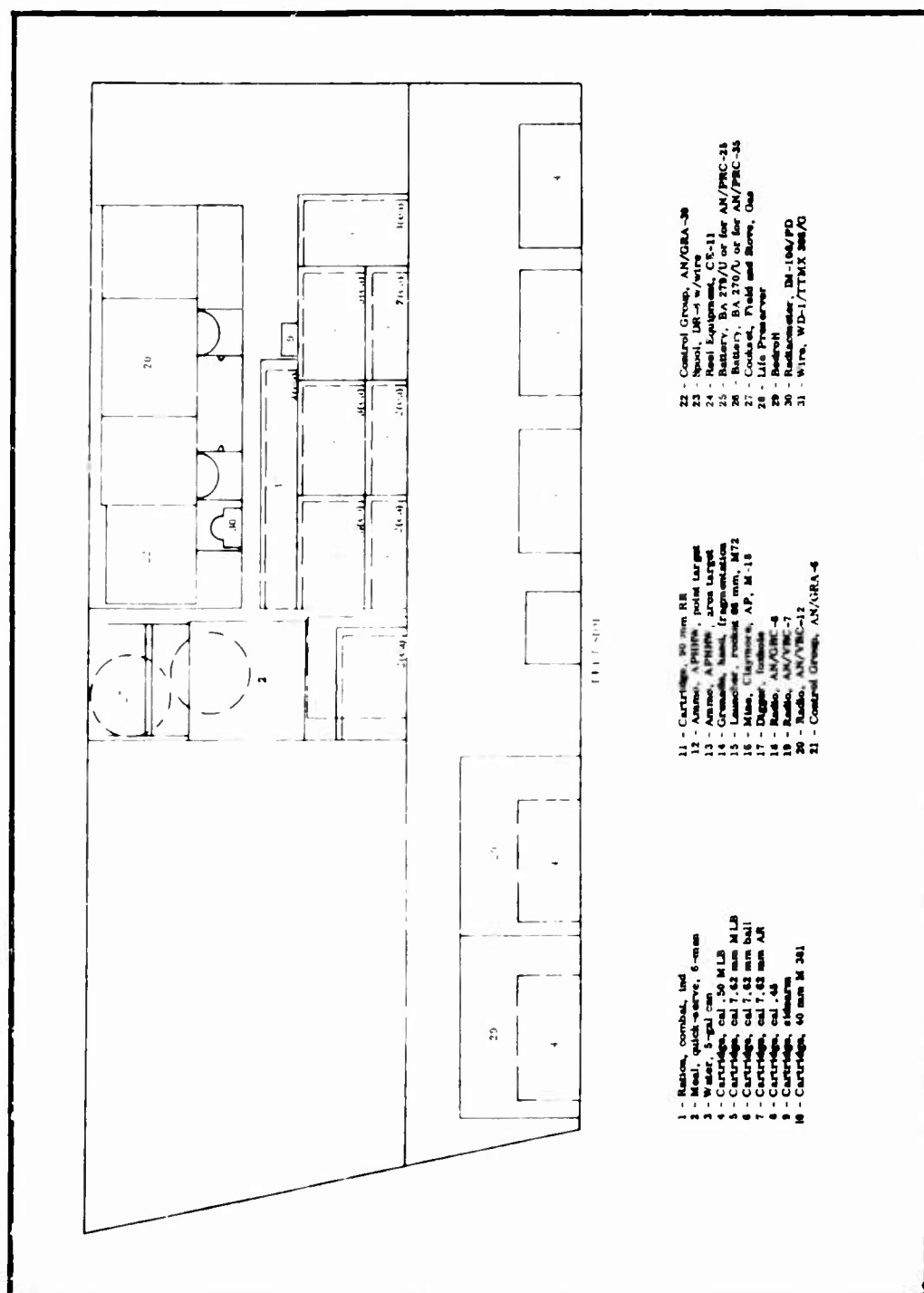


FIGURE B-4
LOADING DIAGRAM - PLATOON HEADQUARTERS CARRIER



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Number of Containers and Type	Location on Vehicle	Number of Containers and Type	Location on Vehicle
9 five-gal water cans	Four cans are mounted on the rear and outside. Two cans are lashed to the right sponson between the case of grenades and the small box of APHHW area ammunition. Two cans are on the right sponson between the small box of APHHW area ammunition and the battery box. One can is lashed to the battery box cover.	Wire, MX306	Lashed on top of water cans between APHHW Point/Ammunition and area ammunition on the right sponson.
6 cases Meal, Quick-Serve	Five cases are lashed on the right sponson next to the engine compartment. One case is lashed on left sponson above 7.62 mm ammunition, next to gas tank.	1 case of life preservers containing six life preservers.	Lashed on top of APHHW point ammunition and wire MX306 on the right sponson.
1 case mines containing six M18 Claymore mines.	One case is lashed on the right sponson between the cases of Meal, Quick-Serve and the case of hand grenades.	10 Launchers, rocket, 66 mm, M72	Six are lashed above the case of foxhole diggers and the case of APHHW point ammunition on the right sponson. Four are lashed to 7.62 mm ammunition below the radio mount on the left sponson.
Batteries, Radio AN/PRC-25	Lashed to the case of mines, anti-personnel next to the cases of Meal, Quick-Serve on the right sponson.	2 cooksets, field with stove gasoline inserted in container.	Stoves and cooksets are lashed to the left sponson next to the gas tank, above the case of Meal, Quick-Serve.
1 case Individual Combat Rations	Lashed to the right sponson next to the case of mines, anti-personnel and in the rear of the case of hand grenades.	Roel Equipment CE 11	Lashed to the left sponson in front of the stoves and cooksets and above the case of Meal, Quick-Serve.
1 case hand grenades containing twenty-five grenades, fragmentation.	Lashed on the right sponson in front of the case of Individual Combat Rations and between the case of mines, anti-personnel and the water can.	Control Group, AN/GRA 39	Lashed to the radio mount on the left sponson.
1 case of foxhole diggers containing twenty-five foxhole diggers.	Lashed on top of the case of Individual Combat Rations and the case of hand grenades on the right sponson.	Radiometer IM-108/PD	Lashed to the radio mount on the left sponson below the Control Group, AN/GRA 39
2 boxes of APHHW Ammunition Point Target, each box has 1200 rounds.	Lashed on top of the water cans on the right sponson.	20 boxes of ammunition 7.62 mm for Machine Guns. Each box has 200 rounds.	Lashed to the deck of the left sponson.
2 boxes of APHHW Area Ammunition. One box has 72 rounds. One box has 24 rounds.	Small box is lashed to the right sponson between the water cans. Large box is lashed to battery box cover next to water cans.	7 boxes of ammunition cal .50. Each box has 100 rounds.	Five are lashed under the left seats. Two are lashed at the rear of the carrier under the right seats.
		Batteries, Radio AN/PRC 35	Lashed in the center of the carrier under the left seats.
		1 box of ammunition, sidearm	Lashed above ammunition 7.62 mm next to the Launchers, rocket, 66 mm M 72 on the left sponson.

TABLE B-4

STOWAGE AND TYPE CONTAINER - PLATOON HEADQUARTERS CARRIER

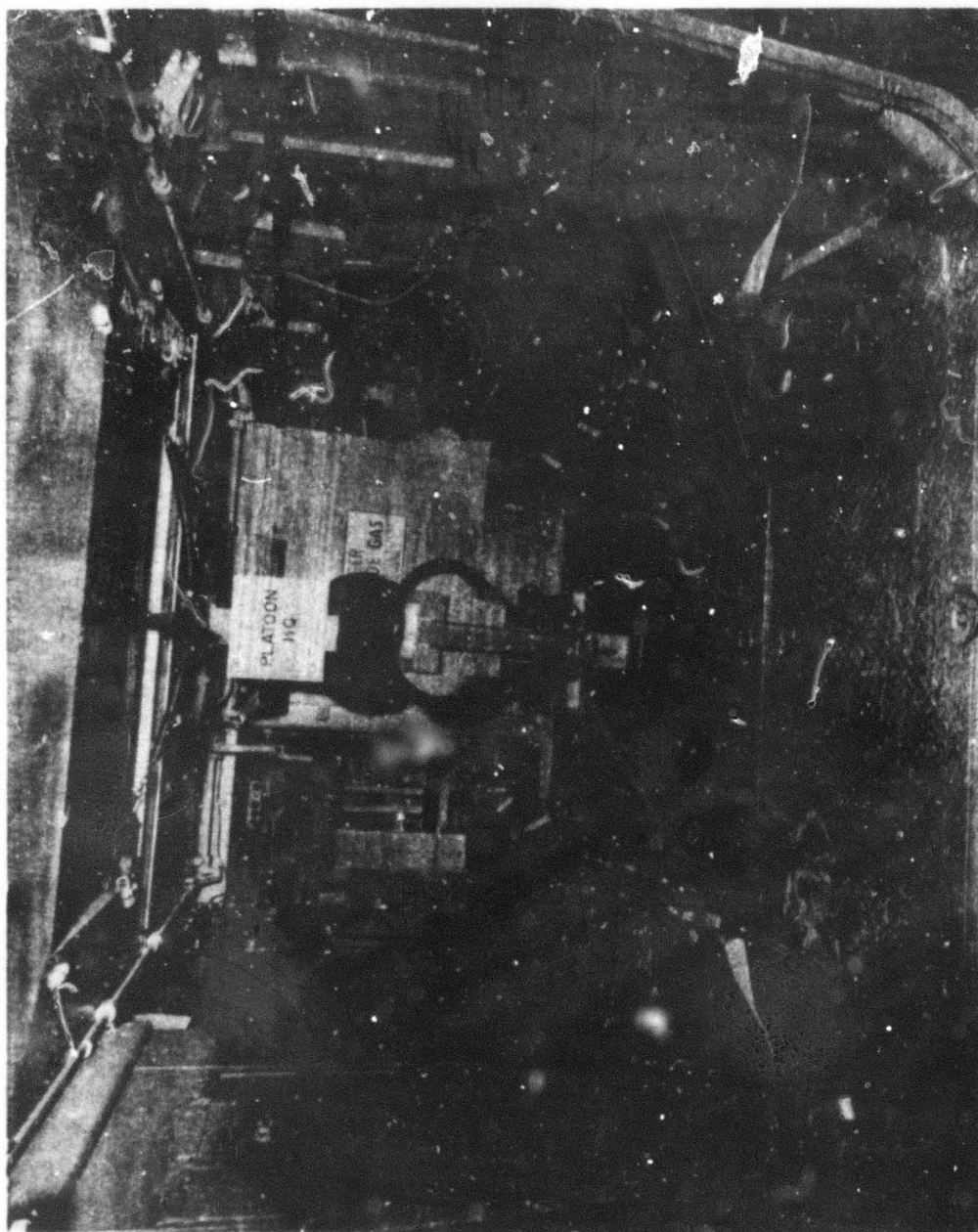


FIGURE B-6
INTERIOR VIEW (CENTER) - PLATOON HEADQUARTERS CARRIER

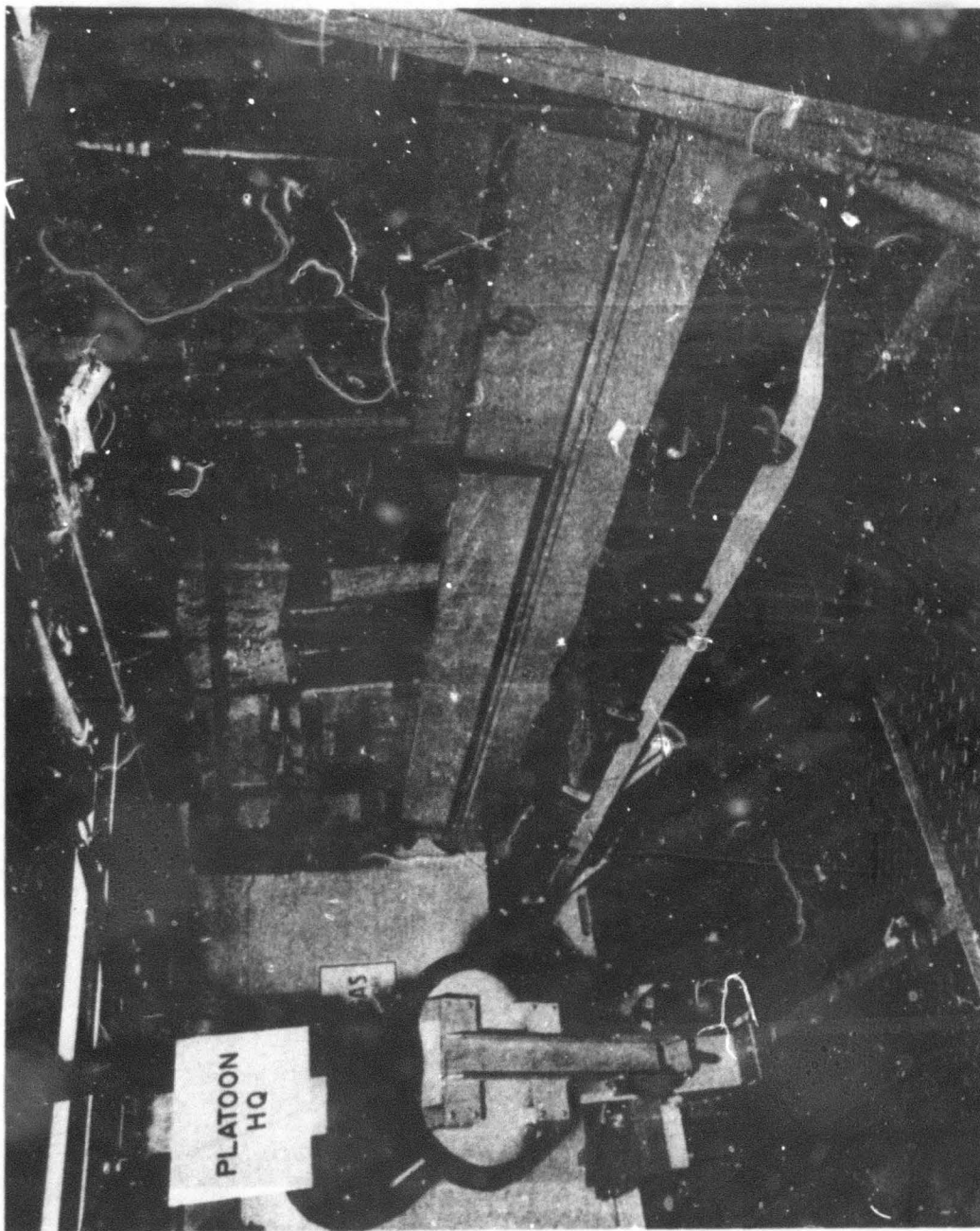


FIGURE B-7
INTERIOR VIEW (RIGHT) - PLATOON HEADQUARTERS CARRIER

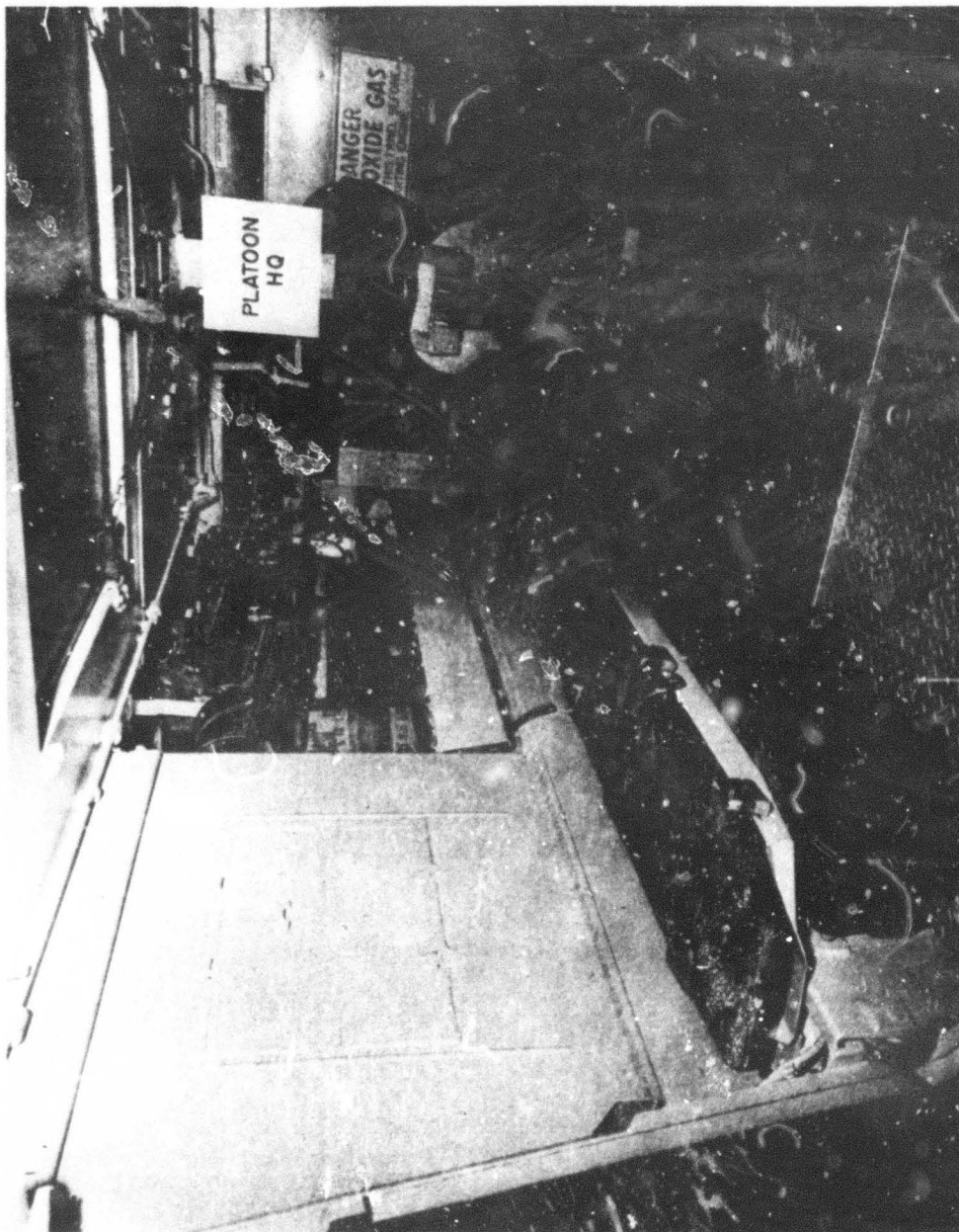


FIGURE B-8
INTERIOR VIEW (LEFT) - PLATOON HEADQUARTERS CARRIER

APPENDIX 2

RIFLE SQUADS OPTIMUM MECHANIZED RIFLE PLATOON

The composition of the rifle squads of the optimum mechanized rifle platoon is as follows:

- | | |
|----------------|---------------------------------|
| 1 Squad leader | 2 M60 machine gunners |
| 2 Team leaders | 2 Riflemen/asst machine gunners |
| 4 Riflemen | 1 Driver |

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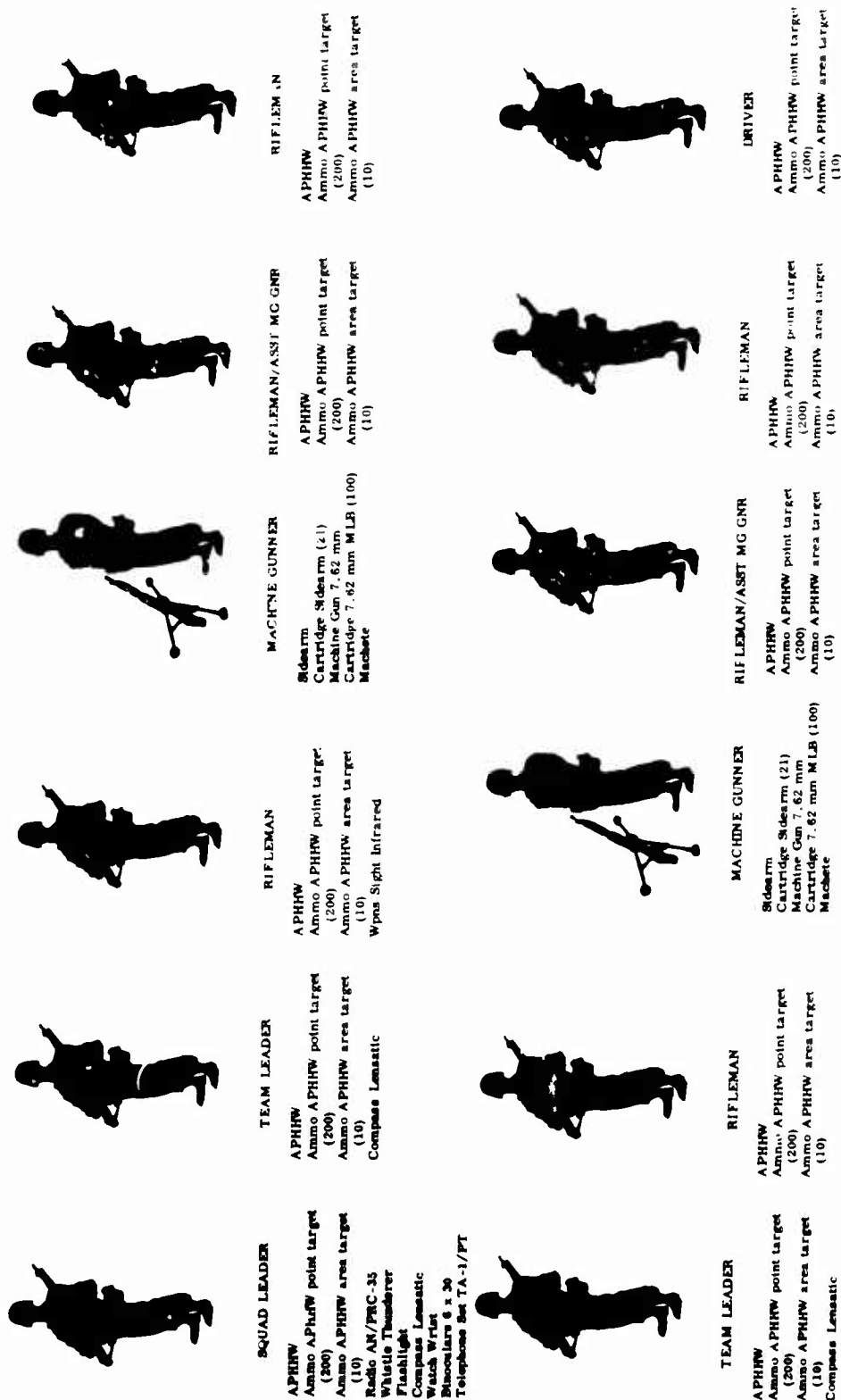


FIGURE B-9

1ST, 2D AND 3D RIFLE SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all rifle platoon personnel are listed in Table B-5, p 77.

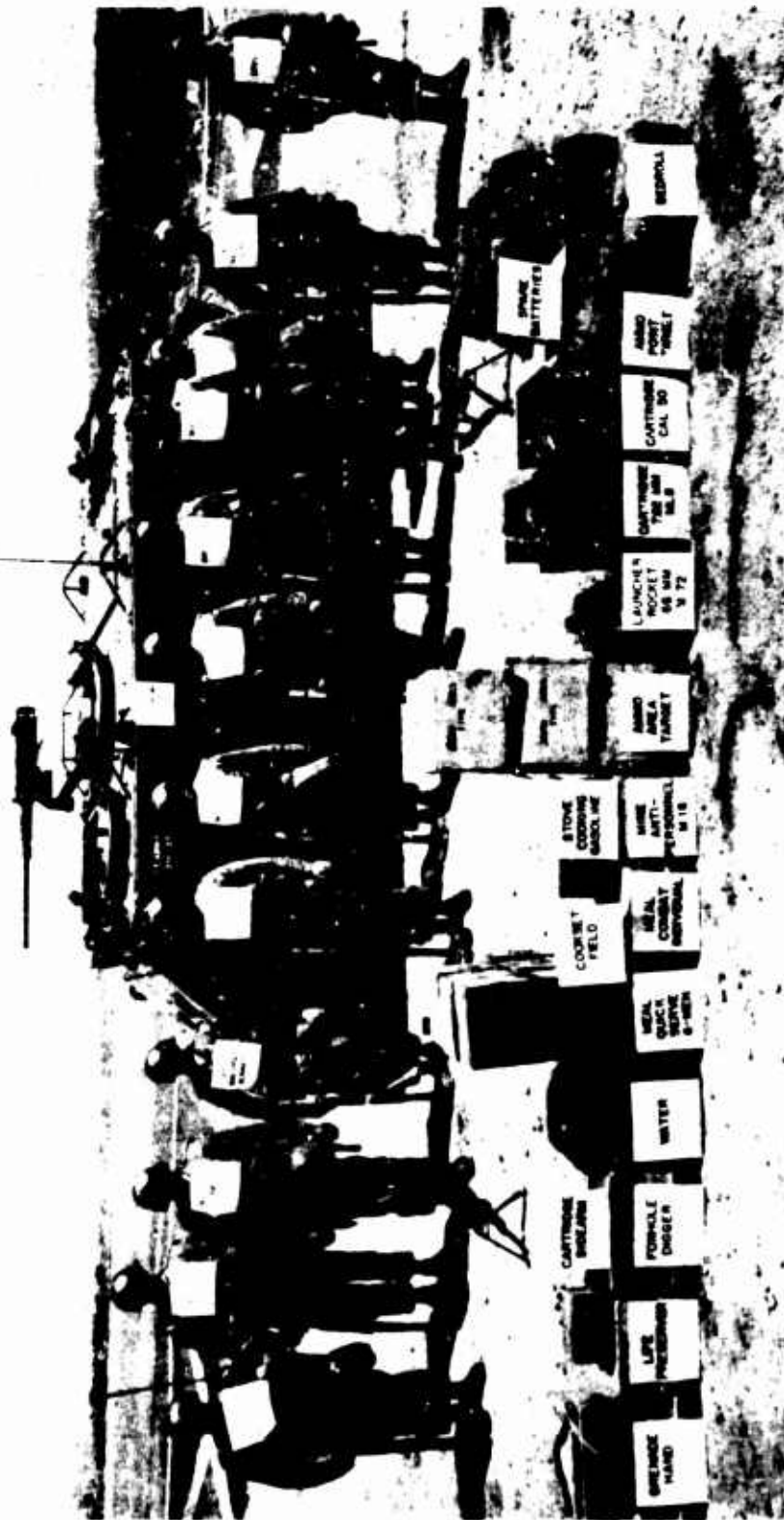


FIGURE B-10
PERSONNEL AND EQUIPMENT LOAD - 1ST, 2D AND 3D RIFLE SQUAD CARRIERS



FIGURE B-11
INTERIOR VIEW - 1ST, 2D AND 3D RIFLE SQUAD CARRIERS

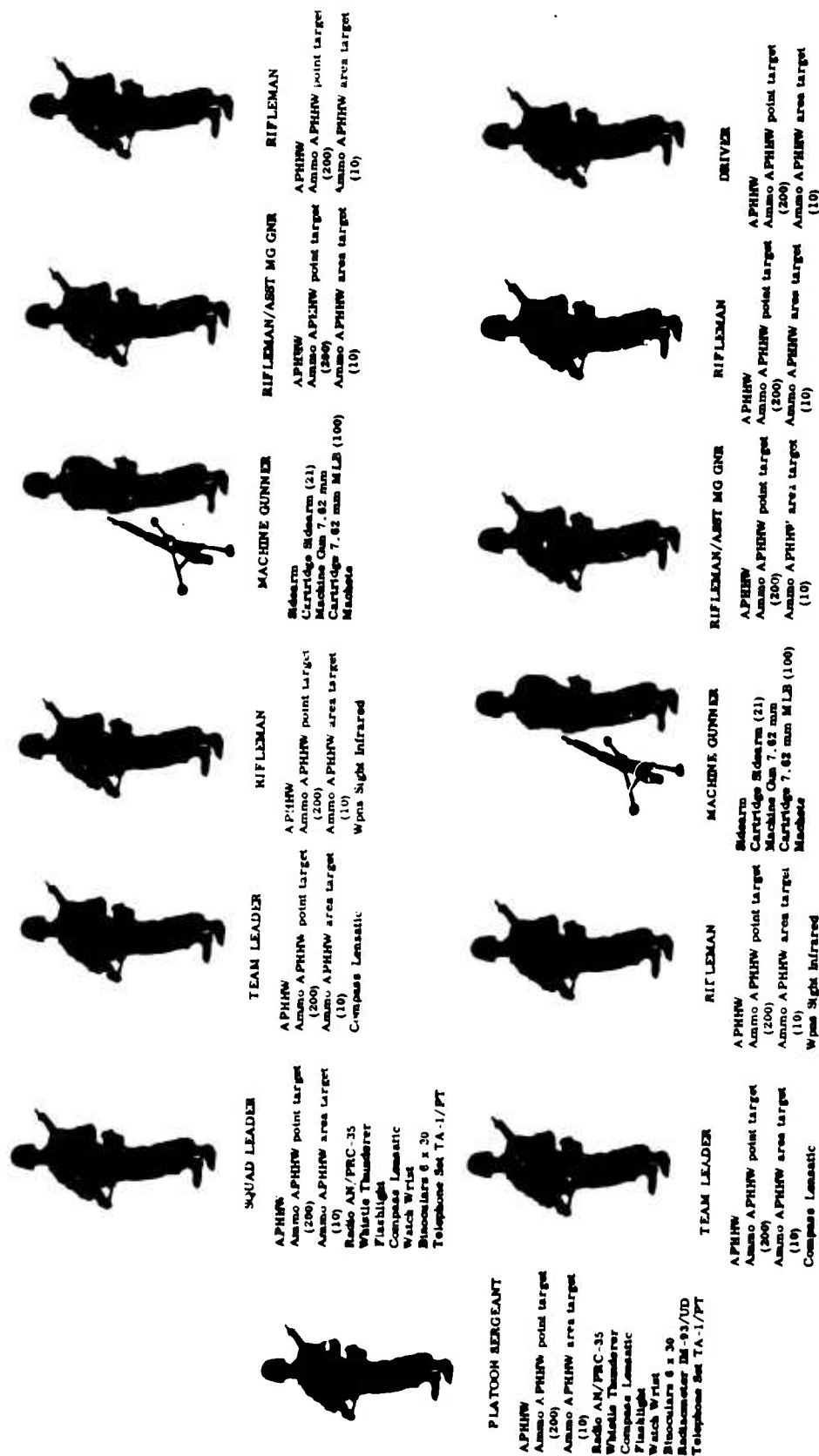


FIGURE B-12

4TH RIFLE SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all rifle platoon personnel are listed in Table B-5, p 77.



FIGURE B-13

PERSONNEL AND EQUIPMENT LOAD - 4TH RIFLE SQUAD CARRIER

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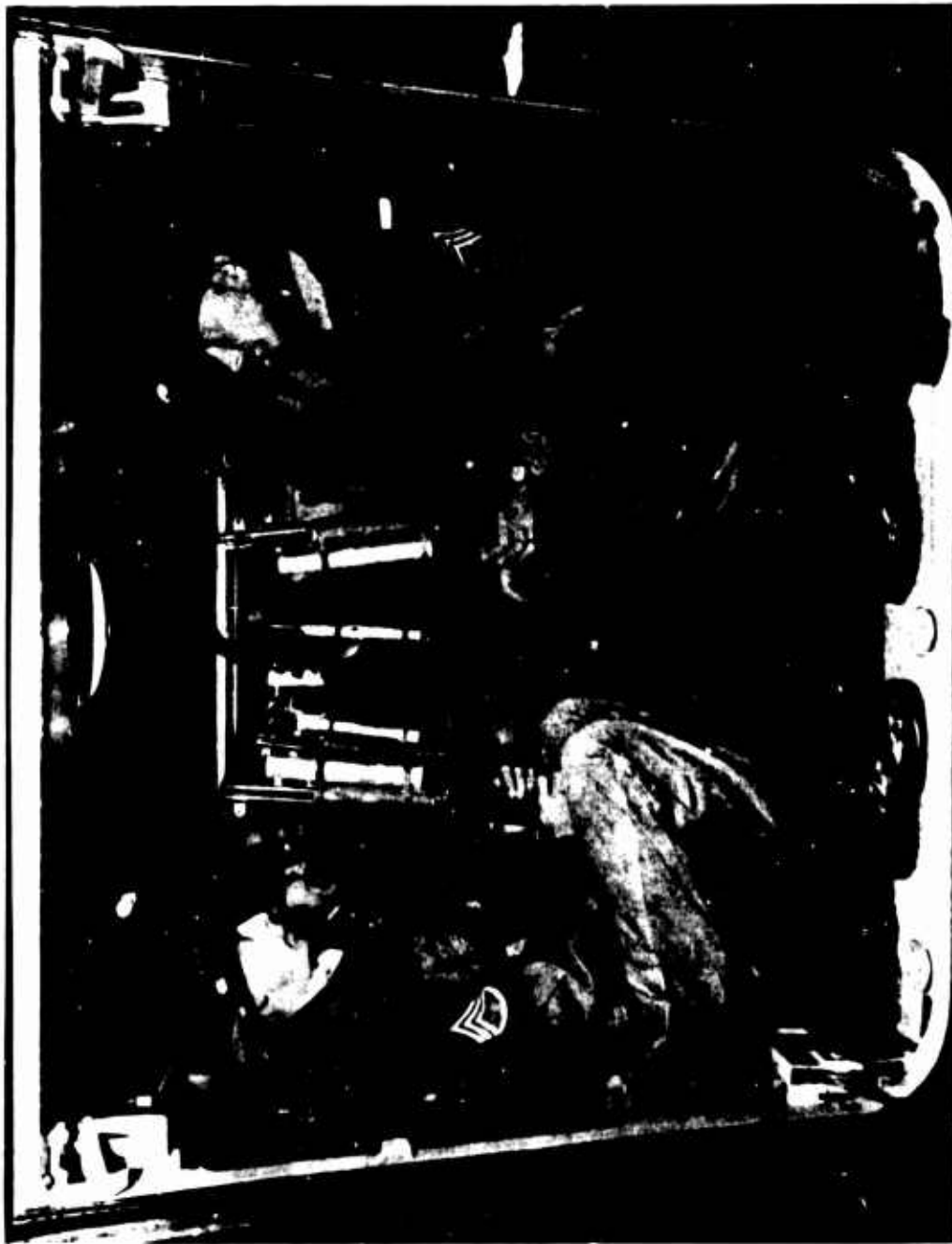


FIGURE B-14
INTERIOR VIEW - 4TH RIFLE SQUAD CARRIER

TABLE B-5
EQUIPMENT COMMON TO ALL RIFLE PLATOON PERSONNEL*

1. Fighting Load

a. Load Carrying Group

- (1) Belt, pistol
- (2) Suspenders, pack, field
- (3) Case, first aid packet, w/packet
- (4) Pouch, small arms, ammo (2)
- (5) Carrier, intrenching tool, w/tool
- (6) Cover, canteen, w/canteen and cup
- (7) Bayonet knife, w/scabbard
- (8) Grenade, hand, fragmentation (2)
- (9) Digger, foxhole

b. Clothing

- (1) All-purpose integrated outer garment
- (2) Undershirt
- (3) Drawers
- (4) Socks
- (5) Helmet, steel, w/liner
- (6) Boots, combat

2. Existence Load

- a. Pack, field, combat**
- b. Ration, combat, individual (1/3)**
- c. Armor, body, fragment protection**
- d. Armor, eye**
- e. Mask, protective, field**
- f. Poncho, lightweight, OD**
- g. Gloves, shell, leather, w/inserts**

3. Full Field Load

a. Extra Clothing

- (1) Undershirt
- (2) Drawers
- (3) Socks

- b. Sleeping bag, comforter, w/carrier**
- c. Tent, shelter half, w/pins and poles**
- d. Toilet articles**
- e. Morale Kit**

* Additional items peculiar to personnel in different positions are shown in Figures B-9 and B-12, pp 70 and 74.

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TABLE B-6
ON-CARRIER EQUIPMENT LIST
RIFLE SQUAD CARRIERS

1 Communication Equipment		
a.	Radio Set, AN/VRC-12	
2. Ammunition		
a.	APHHW, point target	(4800)
b.	APHHW, area target	(216)
c.	Cartridge, sidearm	(50)
d.	Cartridge, cal .50	(800)
e.	Cartridge, 7.62mm MLB	(4000)
f.	Grenade, hand, fragmentation	(25)
g.	Digger, foxhole	(25)
h.	Launcher, rocket, 66mm, M72	(10)
i.	Mine, Claymore, anti-personnel, M18	(6)
3. Additional Equipment		
a.	Cookset, field	(2)
b.	Stove, gasoline burner, one burner, 5500 BTU	(2)
c.	Life Preserver, yoke, gas or oral inflation w/gas cylinder	(13)
d.	Can, water, military, 5-gallon	(6)
e.	Meal, quick-serve, 6-man	(12 cases)
f.	Ration, combat, individual	(2 cases)
g.	Batteries, radio	(4)
h.	Tripod, machine gun	(2)

TABLE B-7
WEIGHT DISTRIBUTION
RIFLE SQUAD CARRIERS

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
12	Case	Meal, quick-serve, 6-man	9.5	95	19
2	Case	Ration, combat, individual	25	50	
1	Case	Digger, foxhole	25	25	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
1	Case	Mine, Claymore, anti-personnel, M18	18	18	
20	Box	Cartridge, 7.62mm, MLB (A127)	17		340
1	Box	Cartridge, sidearm	3*		3*
7	Box	Cartridge, cal .50	37	74	185
4	Box	Ammunition, APHFW, point target	25*	100	
3	Box	Ammunition, APHFW, area target	58*	135	39*
10	Each	Launcher, rocket, 66mm, M72	4.5	18	27
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3		6
2	Each	Cookset, field	2		4
6	Each	Can, water, military, 5-gal	50	200	100
4	Each	Battery, radio	2*	8*	
13	Each	Life Preserver, yoke, gas or oral inflation w/gas cylinder	4.5	58.5	
1	Each	Mount, radio	58*		56*
1	Each	Radio, AN/VRC-12	137*		137*
CARGO WEIGHT EACH SIDE				839.3	918.0
TOTAL CARGO WEIGHT					1,757.3

Above weights do not include combat equipped individuals. For computing individual weights, an average weight of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

* Estimated

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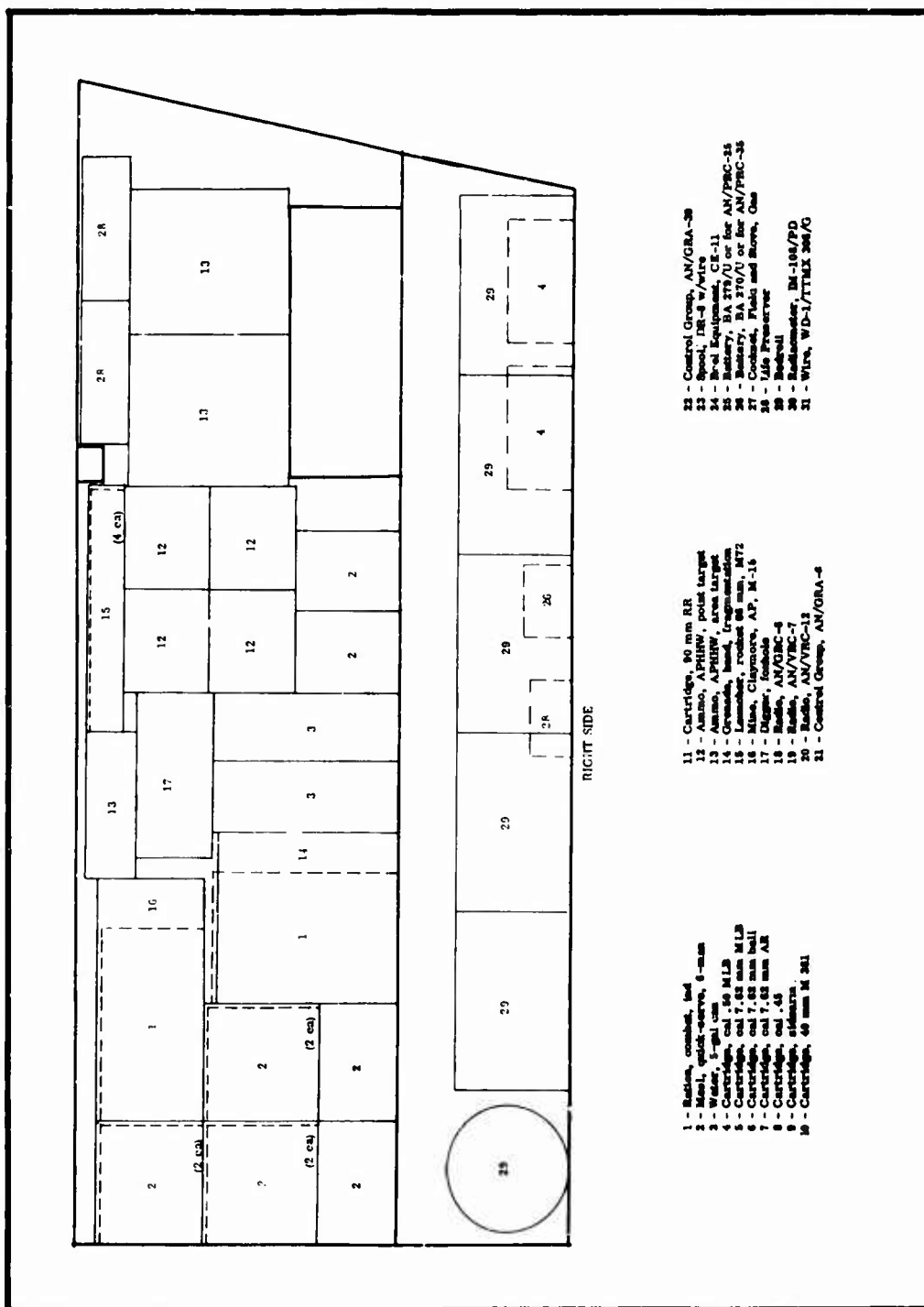


FIGURE B-15
LOADING DIAGRAM - RIFLE SQUAD CARRIERS

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Number of Containers and Type	Location on Vehicle	Number of Containers and Type	Location on Vehicle
6 five-gal water cans	Four cans are mounted on the rear and outside. Two cans are lashed on the right sponson between the case of hand grenades and the case of Meal, Quick-Serve.	4 boxes of Ammunition, APHRW, point target. Each box containing 1200 rounds.	Four boxes are lashed on top of the cases of Meal, Quick-Serve and between the case of foxhole diggers and Ammunition, APHRW, area target on the right sponson.
12 cases of Meal, Quick-Serve	Eight cases are lashed on the right sponson next to the engine compartment. Two cases are lashed between the cans, water and the battery box cover on the right sponson. Two cases are lashed on the left sponson above the 7.62 mm ammunition next to the gas tank.	10 Launchers, Rocket, 66 mm, M72	Four are lashed above the case of foxhole diggers and the cases of Ammunition, APHRW, point target on the right sponson. Four are lashed to the 7.62 mm ammunition below the radio mount on the left sponson. Two are standing upright between the 7.62 mm ammunition and the boxes of ammunition APHRW area target on the left sponson.
2 cases of Individual Combat Rations	One case is lashed on the right sponson above the cases of Meal, Quick-Serve and in rear of the case of mines, anti-personnel. One case is lashed between the case of Meal, Quick-Serve and the water cans, and in rear of the case of hand grenades on the right sponson.	2 cases of life preservers containing six life preservers each and one extra	Lashed alongside each other on top of the Ammunition, APHRW area target on the right sponson. The thirteen life preserver is lashed beneath the right seat.
1 case mines, containing six M18 Claymore mines	Lashed above cases of Meal, Quick-Serve and in front of case of Individual Combat Rations on the right sponson.	2 cooksets, field with stove gasoline inserted in container	Stoves and cooksets are lashed in rear of cases of Meal, Quick-Serve next to the gas tanks on the left sponson.
1 case of hand grenades containing twenty-five grenades, fragmentation	Lashed on the right sponson in front of the case of Individual Combat Rations and between the cases of Meal, Quick-Serve and water cans.	20 boxes of ammunition, 7.62 mm for Machine Guns. Each box has 200 rounds	Lashed to the deck of the left sponson.
1 case of foxhole diggers containing twenty-five foxhole diggers	Lashed on top of the water cans on the right sponson.	7 boxes of ammunition cal .50 Each box has 100 rounds	Five are lashed under the left seats. Two are lashed to the rear of the carrier under the right seats.
5 boxes of Ammunition, APHRW, area target. Two boxes containing 72 rounds each. Three boxes containing 24 rounds each.	Two large boxes are lashed on the right sponson on top of the battery box cover. One small box is lashed on top of the case of foxhole diggers and between the case of mines, anti-personnel and launchers, rocket, 66 mm, M72 on the right sponson. One small box is lashed next to the Launchers, Rocket, 66 mm, M72 on the edge of the left sponson behind the driver. One small box is lashed next to the radio on the radio mount.	Batteries, radio	Lashed in the center of the carrier under the right seats.
		1 box of Ammunition, Sidearm	Lashed to the Ammunition, APHRW, area target on the radio mount.
		2 Tripods, machine gun M60 12 bedrolls	Lashed to top exterior of carrier. Six bedrolls are placed under the right seats and six bedrolls are placed under the left seats.

TABLE B-8

STOWAGE AND TYPE CONTAINERS - RIFLE SQUAD CARRIERS

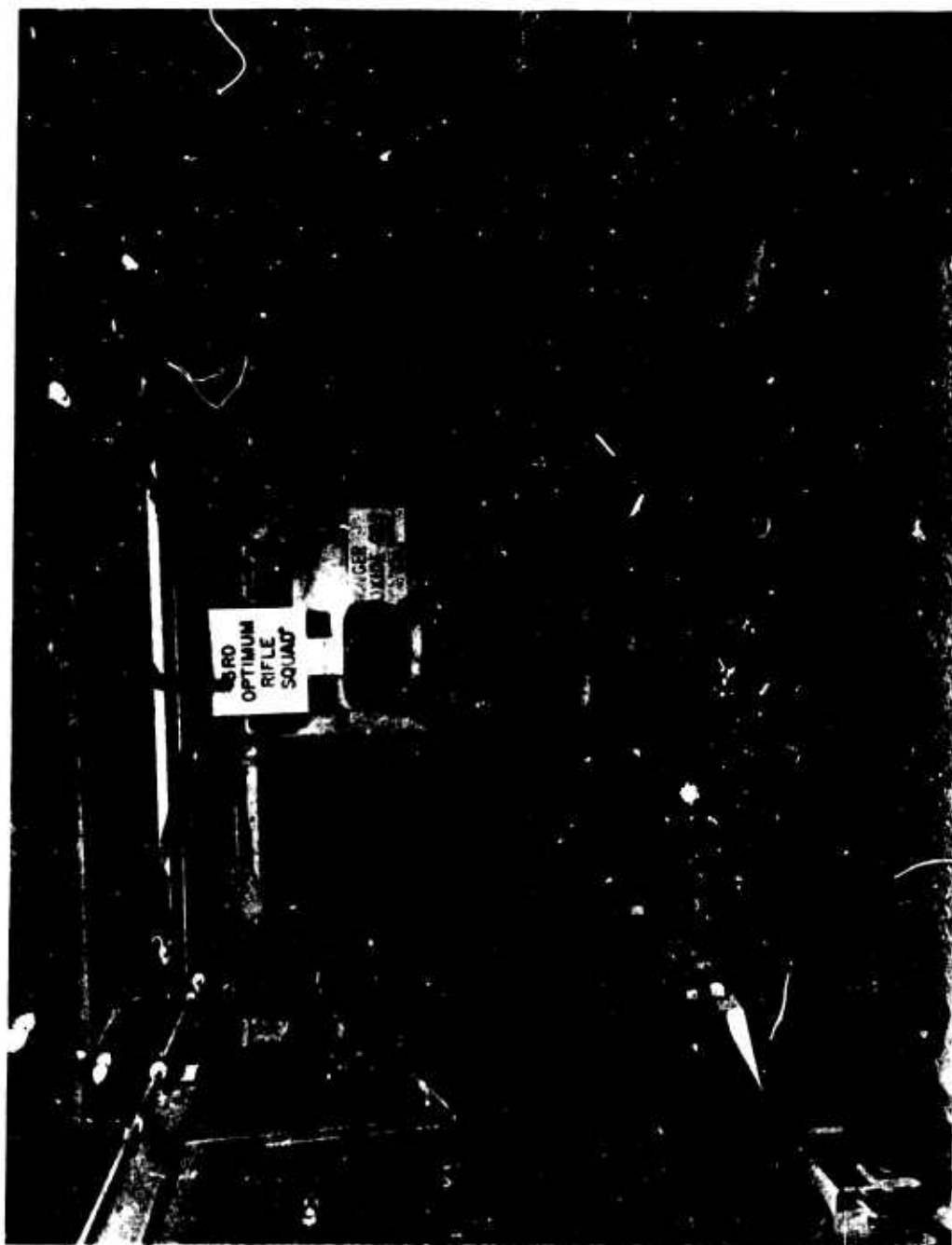


FIGURE B-17

INTERIOR VIEW (CENTER) - RIFLE SQUAD CARRIER



FIGURE B-18

INTERIOR VIEW (RIGHT) - RIFLE SQUAD CARRIER



FIGURE B-19
INTERIOR VIEW (LEFT) - RIFLE SQUAD CARRIER

Annex C

LOADING PLAN FOR ALTERNATE MECHANIZED RIFLE PLATOON

1. The USA CDEC alternate mechanized rifle platoon consists of four twelve-man rifle squads and a four-man platoon headquarters. Each squad is equipped with an M113 APC.

2. In accordance with doctrine contained in FM 17-20 the four members of the platoon headquarters were distributed among the squad carriers for transportation purposes as follows:

Platoon leader - 1st rifle squad carrier
Radio operator/messenger - 2nd rifle squad carrier
Assistant platoon sergeant - 3rd rifle squad carrier
Platoon sergeant - 4th rifle squad carrier

Squad composition, job titles, equipment, weapons, ammunition, stowage diagrams, and photographs for each unit are shown in the appendix.

3. Basic "off-carrier" requirements for personal equipment were determined by ascertaining what the individual required to be self sufficient in combat for twenty-four hours of dismounted action.

4. Equipment requirements were developed in conjunction with the Optimum Composition of the Rifle Squad and Platoon Experiment. The equipment lists were based on existing requirements, military experience and judgment, and equipment assumed to be available during the 1965-70 period.

5. Rations used allow a three-day balanced diet for each individual. A combination of quick-serve meals and individual combat rations was selected; the ratio being two quick-serve meals to one individual combat ration. Other combinations of the two rations would produce comparable results since both types have approximately the same volume.

APPENDIX **RIFLE SQUADS** **ALTERNATE MECHANIZED RIFLE PLATOON**

The composition of the rifle squads of the alternate mechanized rifle platoon is as follows:

- | | |
|----------------|--------------------------------------|
| 1 Squad leader | 2 M-60 machine gunners |
| 2 Team leaders | 2 Rifleman/assistant machine gunners |
| 4 Riflemen | 1 Driver |

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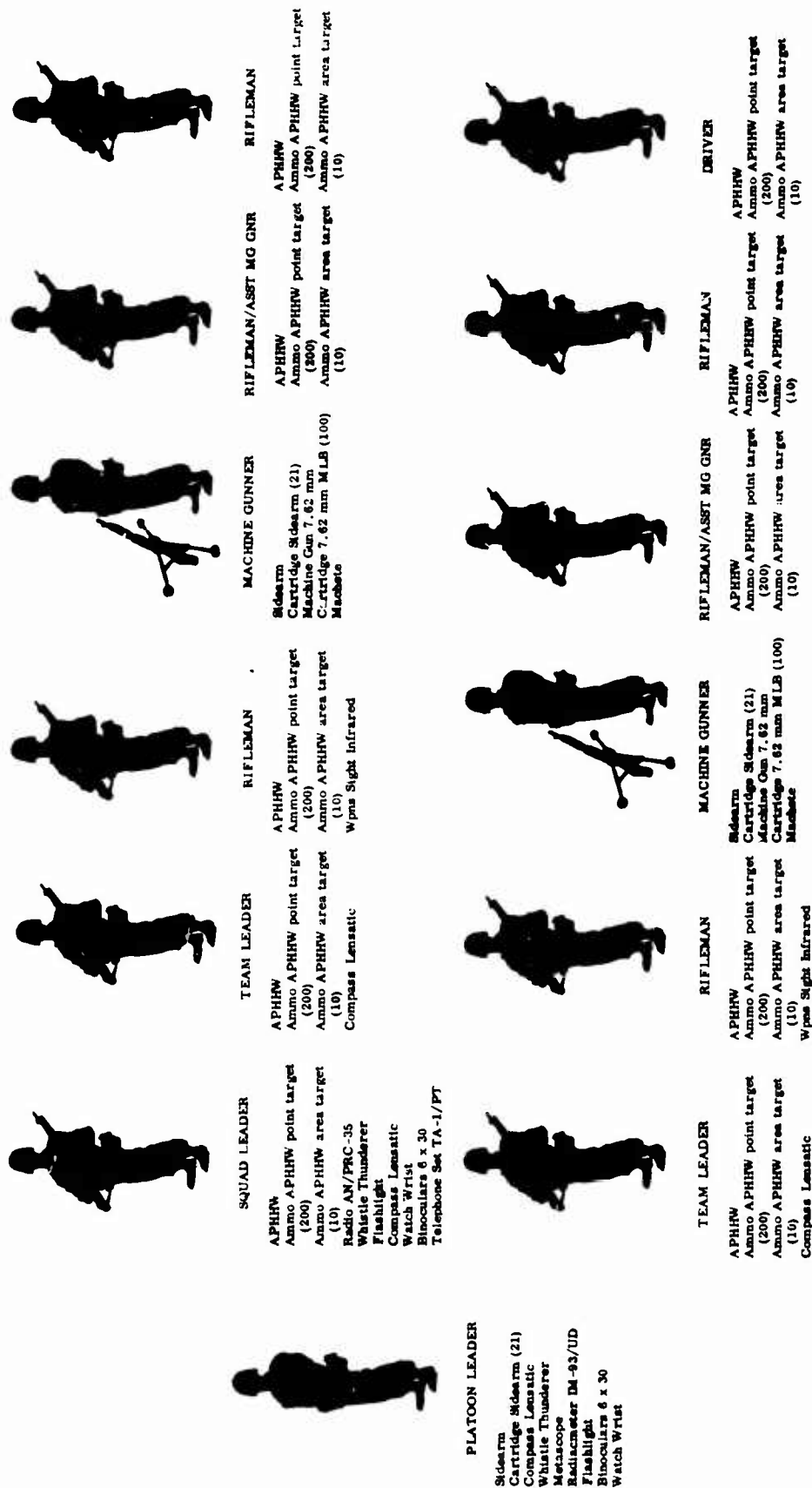


FIGURE C-1

1ST RIFLE SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all rifle platoon personnel are listed in Table C-1, p 105.



FIGURE C-2
PERSONNEL AND EQUIPMENT LOAD - 1ST RIFLE SQUAD CARRIER



FIGURE C-3
INTERIOR VIEW - 1ST RIFLE SQUAD CARRIER

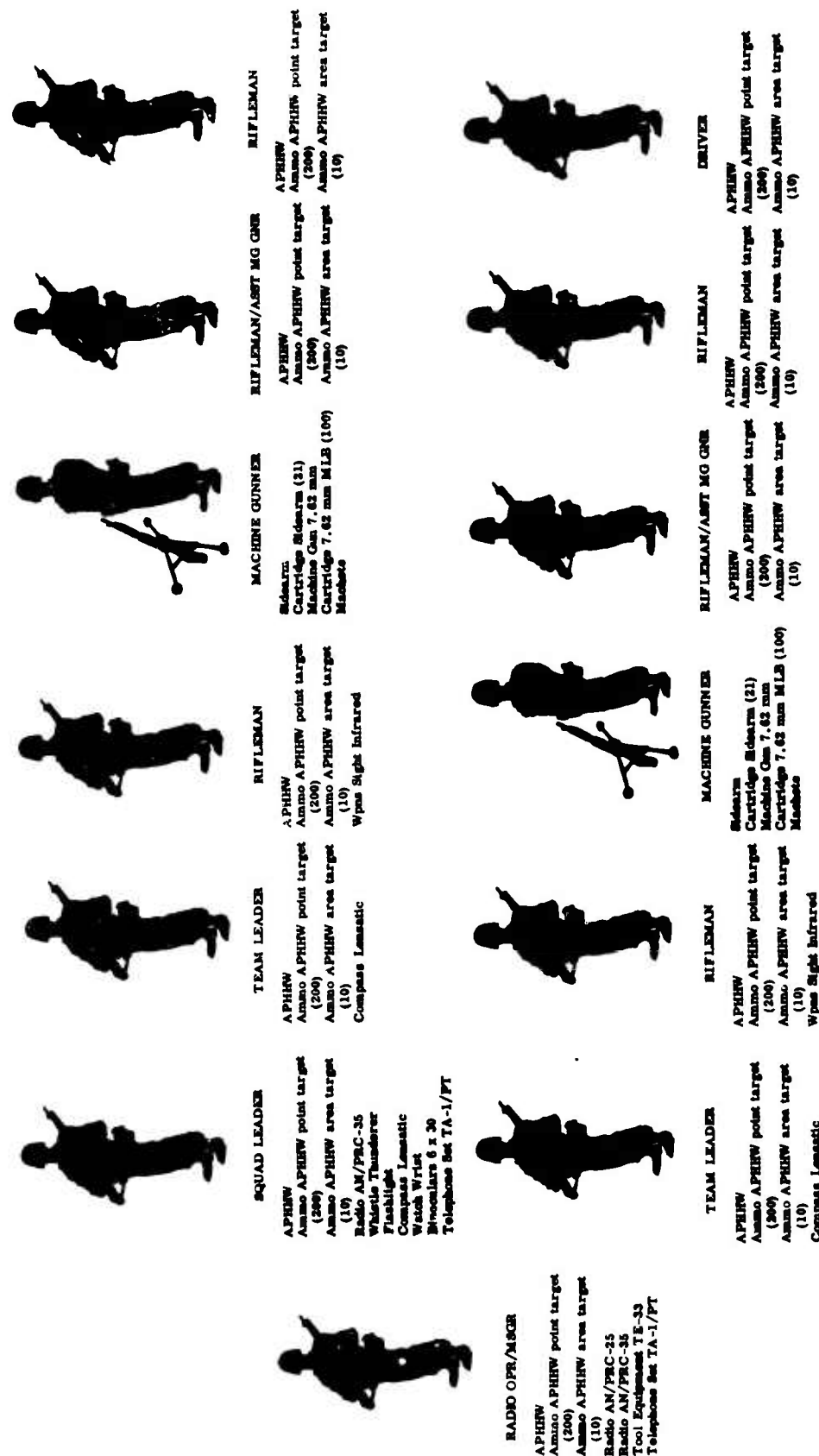


FIGURE C-4

2D RIFLE SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all rifle platoon personnel are listed in Table C-1, p 105.



FIGURE C-5

PERSONNEL AND EQUIPMENT LOAD - 2D RIFLE SQUAD CARRIER

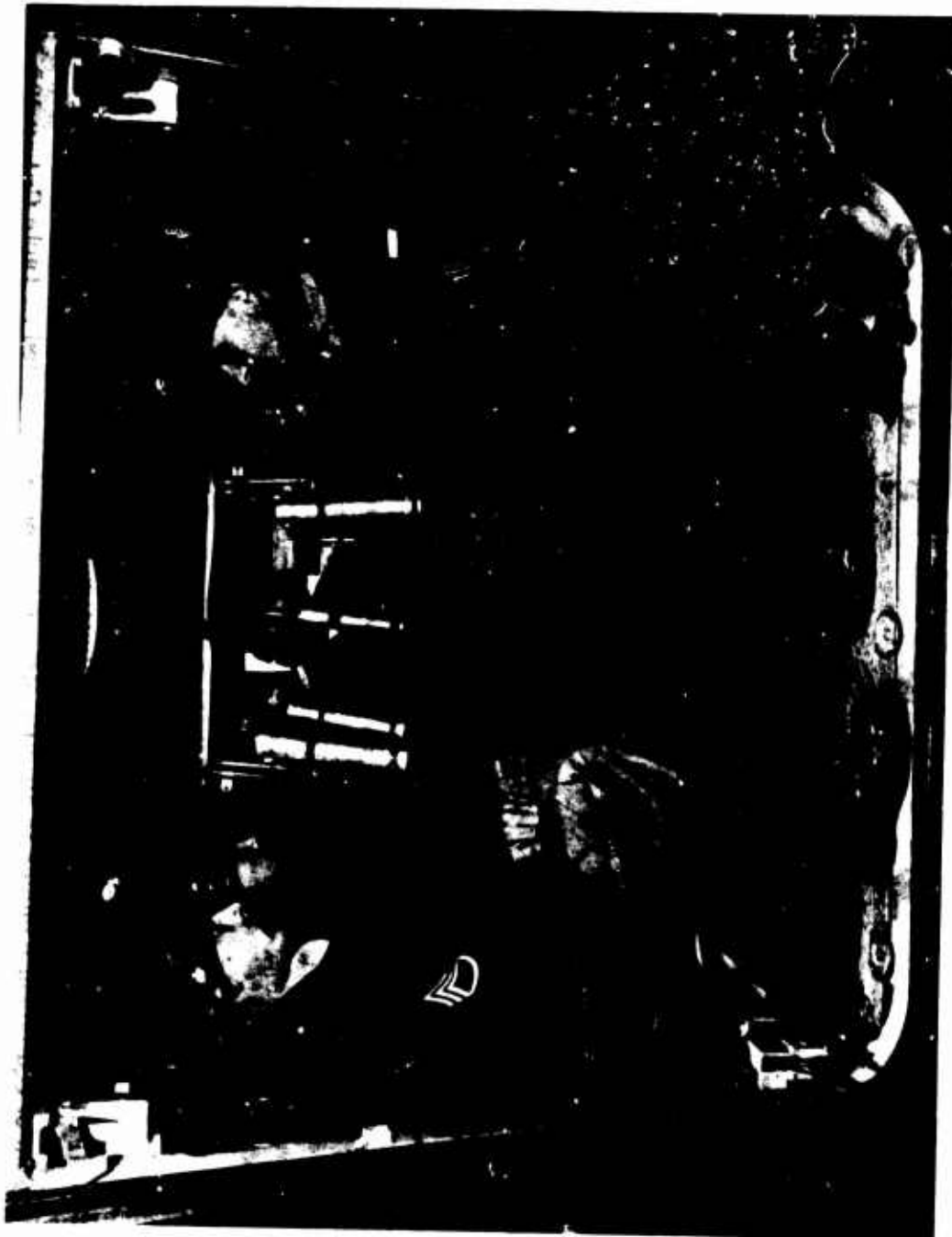


FIGURE C-6
INTERIOR VIEW - 2D RIFLE SQUAD CARRIER

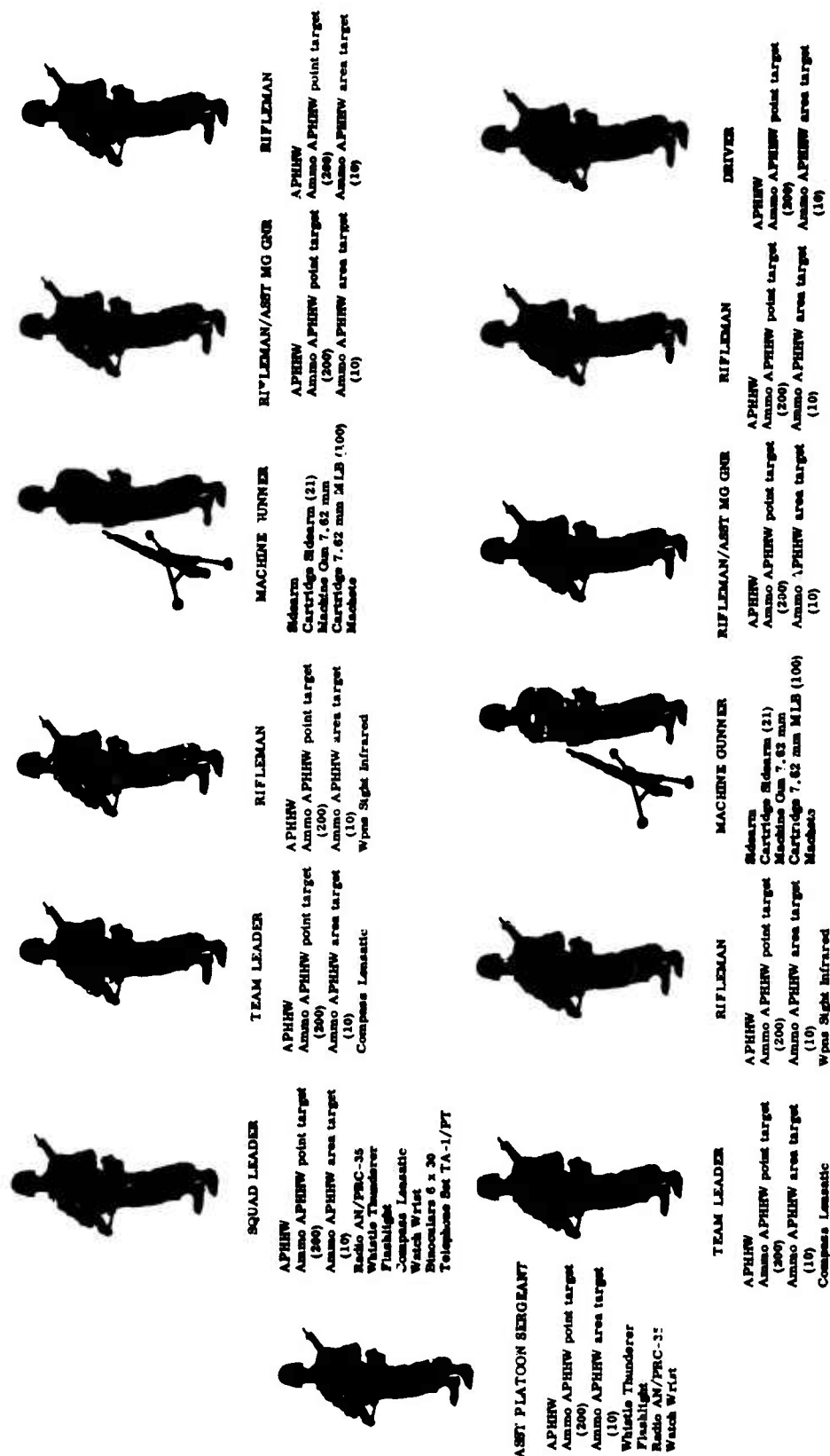


FIGURE C-7

3D RIFLE SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all rifle platoon personnel are listed in Table C-1, p 105.



FIGURE C-8
PERSONNEL AND EQUIPMENT LOAD - 3D RIFLE SQUAD CARRIER



FIGURE C-9
INTERIOR VIEW - 3D RIFLE SQUAD CARRIER

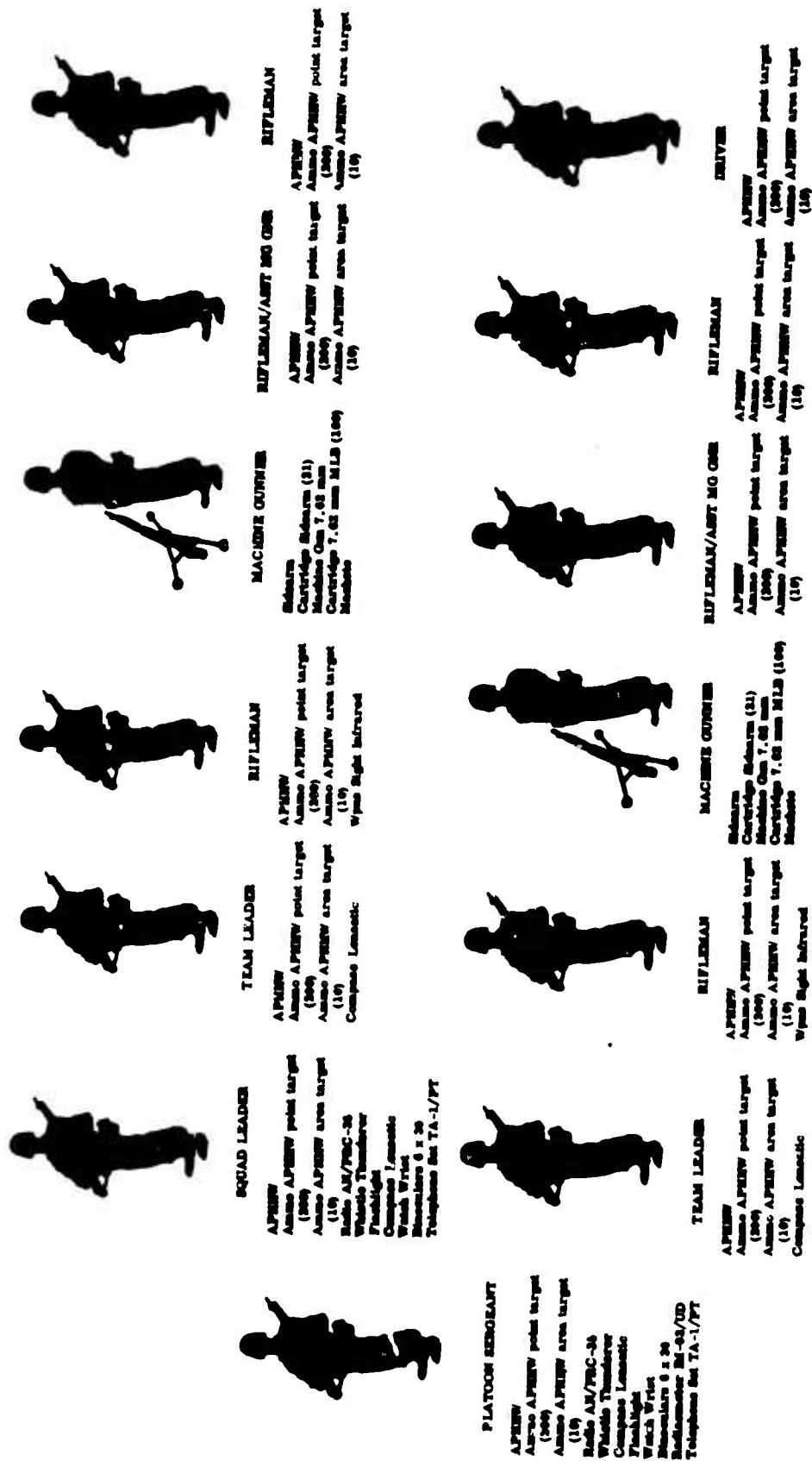


FIGURE C-10

4TH RIFLE SQUAD CARRIER PERSONNEL WITH THEIR ADDITIONAL* EQUIPMENT

*Items of equipment common to all rifle platoon personnel are listed in Table C-1, p 105.



FIGURE C-11
PERSONNEL AND EQUIPMENT LOAD - 4TH RIFLE SQUAD CARRIER

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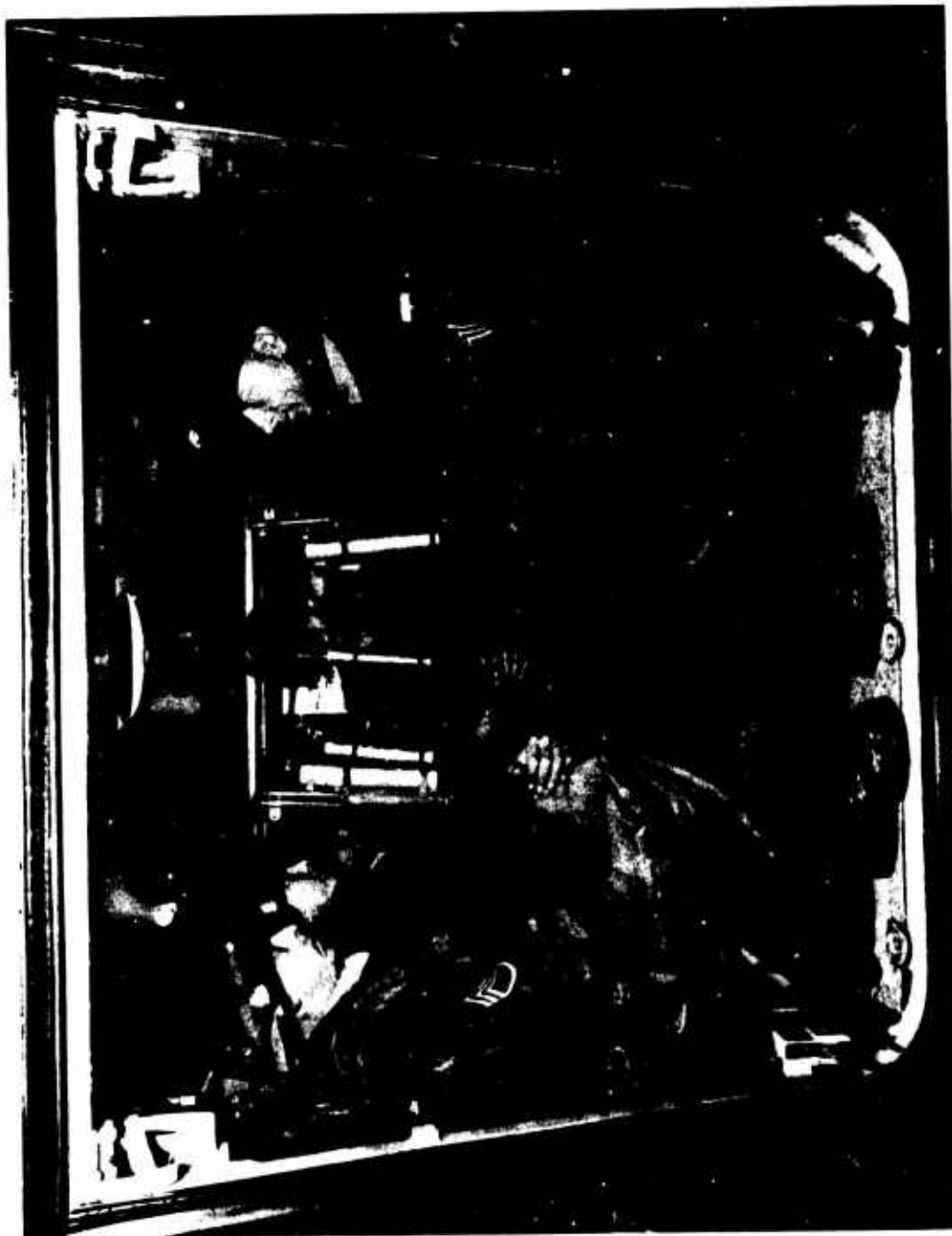


FIGURE C-12
INTERIOR VIEW - 4TH RIFLE SQUAD CARRIER

TABLE C-1
EQUIPMENT COMMON TO ALL RIFLE PLATOON PERSONNEL*

- | |
|---|
| <p>1. Fighting Load</p> <p style="margin-left: 20px;">a. Load Carrying Group</p> <p style="margin-left: 40px;">(1) Belt, pistol</p> <p style="margin-left: 40px;">(2) Suspenders, pack, field</p> <p style="margin-left: 40px;">(3) Case, first aid packet, w/packet</p> <p style="margin-left: 40px;">(4) Pouch, small arms, ammo (2)</p> <p style="margin-left: 40px;">(5) Carrier, intrenching tool, w/tool</p> <p style="margin-left: 40px;">(6) Cover, canteen, w/canteen and cup</p> <p style="margin-left: 40px;">(7) Bayonet knife, w/scabbard</p> <p style="margin-left: 40px;">(8) Grenade, hand, fragmentation (2)</p> <p style="margin-left: 40px;">(9) Digger, foxhole</p> <p style="margin-left: 20px;">b. Clothing</p> <p style="margin-left: 40px;">(1) All-purpose integrated outer garment</p> <p style="margin-left: 40px;">(2) Undershirt</p> <p style="margin-left: 40px;">(3) Drawers</p> <p style="margin-left: 40px;">(4) Socks</p> <p style="margin-left: 40px;">(5) Helmet, steel, w/liner</p> <p style="margin-left: 40px;">(6) Boots, combat</p> <p>2. Existence Load</p> <p style="margin-left: 20px;">a. Pack, field, combat</p> <p style="margin-left: 20px;">b. Ration, combat, individual (1/3)</p> <p style="margin-left: 20px;">c. Armor, body, fragment protection</p> <p style="margin-left: 20px;">d. Armor, eye</p> <p style="margin-left: 20px;">e. Mask, protective, field</p> <p style="margin-left: 20px;">f. Poncho, lightweight, O D</p> <p style="margin-left: 20px;">g. Gloves, shell, leather, w/inserts</p> <p>3. Full Field Load</p> <p style="margin-left: 20px;">a. Extra Clothing</p> <p style="margin-left: 40px;">(1) Undershirt</p> <p style="margin-left: 40px;">(2) Drawers</p> <p style="margin-left: 40px;">(3) Socks</p> <p style="margin-left: 20px;">b. Sleeping bag, comforter, w/carrier</p> <p style="margin-left: 20px;">c. Tent, shelter half, w/pins and poles</p> <p style="margin-left: 20px;">d. Toilet articles</p> <p style="margin-left: 20px;">e. Morale Kit</p> |
|---|

* Additional items peculiar to personnel in different positions are shown in Figures C-1, p 90; C-4, p 94; C-7, p 98; and C-10, p 102.

TABLE C-2
ON-CARRIER EQUIPMENT LIST
1ST RIFLE SQUAD CARRIER

1. Communications Equipment		
a.	Radio Set, AN/VRC-12	
b.	Control Group, AN/GRA-39	
c.	Reel Equipment, CE 11 w/wire	
2. Ammunition		
a.	APHHW, point target	(4800)
b.	APHHW, area target	(216)
c.	Cartridge, sidearm	(50)
d.	Cartridge, cal. .50	(800)
e.	Cartridge, 7.62mm MLB	(4000)
f.	Grenade, hand, fragmentation	(25)
g.	Digger, foxhole	(25)
h.	Launcher, rocket, 66mm, M72	(10)
i.	Mine, Claymore, anti-personnel, M18	(6)
3. Additional Equipment		
a.	Cookset, field	(2)
b.	Stove, gasoline burner, one burner, 5500 BTU	(2)
c.	Life Preserver, yoke, gas or oral inflation w/gas cylinder	(14)
d.	Can, water, military, 5-gallon	(6)
e.	Meal, quick-serve, 6-man	(12 cases)
f.	Ration, combat, individual	(2 cases & 2/3 ration)
g.	Batteries, radio	(4)
h.	Radiacmeter, IM-108/PD	(1)
i.	Tripod, machine gun	(2)

TABLE C-3
ON-CARRIER EQUIPMENT LIST
2D RIFLE SQUAD CARRIER

1.	Communications Equipment	
a.	Radio Set, AN/VRC 12	
2.	Ammunition	
a.	APHHW, point target	(4800)
b.	APHHW, area target	(216)
c.	Cartridge, sidearm	(50)
d.	Cartridge, cal. .50	(800)
e.	Cartridge, 7.62 MLB	(4000)
f.	Grenade, hand, fragmentation	(25)
g.	Digger, foxhole	(25)
h.	Launcher, rocket, 66mm, M72	(10)
i.	Mine, Claymore, anti-personnel, M18	(6)
3.	Additional Equipment	
a.	Cookset, field	(2)
b.	Stove, gasoline burner, one burner, 5500 BTU	(2)
c.	Life Preserver, yoke, gas or oral inflation w/gas cylinder	(14)
d.	Can, water, military, 5-gallon	(6)
e.	Meal, quick-serve, 6-man	(12 cases)
f.	Ration, combat, individual	(2 cases & 2/3 ration)
g.	Batteries, radio	(6)
h.	Tripod, machine gun	(2)

TABLE C-4

ON-CARRIER EQUIPMENT LIST
3D RIFLE SQUAD CARRIER

- | | | |
|----|---|------------------------|
| 1. | Communication Equipment | |
| a. | Radio Set, AN/VRC-12 | |
| 2. | Ammunition | |
| a. | APHHW, point target | (4800) |
| b. | APHHW, area target | (240) |
| c. | Cartridge, sidearm | (50) |
| d. | Cartridge, cal .50 | (800) |
| e. | Cartridge, 7.62mm MLB | (4000) |
| f. | Grenade, hand, fragmentation | (25) |
| g. | Digger, foxhole | (25) |
| h. | Launcher, rocket, 66mm, M72 | (10) |
| i. | Mine, Claymore, anti-personnel,
M18 | (6) |
| 3. | Additional Equipment | |
| a. | Cookset, field | (2) |
| b. | Stove, gasoline burner, one burner,
5500 BTU | (2) |
| c. | Life Preserver, yoke, gas or oral
inflation w/gas cylinder | (14) |
| d. | Can, water, military, 5-gallon | (6) |
| e. | Meal, quick-serve, 6-man | (12 cases) |
| f. | Ration, combat, individual | (2 cases & 2/3 ration) |
| g. | Batteries, radio | (4) |
| h. | Tripods, machine guns | (2) |

TABLE C-5

ON-CARRIER EQUIPMENT LIST
4TH RIFLE SQUAD CARRIER

- | | | |
|-------------------------|---|------------------------|
| 1. Communications | | |
| a. | Radio Set, AN/VRC-12 | |
| b. | Wire, WD-1/TT MX306 | |
| 2. Ammunition | | |
| a. | APHHW, point target | (4800) |
| b. | APHHW, area target | (240) |
| c. | Cartridge, sidearm | (50) |
| d. | Cartridge, cal .50 | (800) |
| e. | Cartridge, 7.62mm MLB | (4000) |
| f. | Grenade, hand, fragmentation | (25) |
| g. | Digger, foxhole | (25) |
| h. | Launcher, rocket, 66mm, M72 | (10) |
| i. | Mine, Claymore, anti-personnel,
M18 | (6) |
| 3. Additional Equipment | | |
| a. | Cookset, field | (2) |
| b. | Life Preserver, yoke, gas or oral
inflation w/gas cylinder | (14) |
| c. | Stove, gasoline burner, one burner,
5500 BTU | (2) |
| d. | Can, water, military, 5-gallon | (6) |
| e. | Meal, quick-serve, 6-man | (12 cases) |
| f. | Ration, combat, individual | (2 cases & 2/3 ration) |
| g. | Batteries, radio | (4) |
| h. | Tripods, machine gun | (2) |

FOR OFFICIAL USE ONLY

TABLE C-6
WEIGHT DISTRIBUTION
1ST RIFLE SQUAD CARRIER

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
12	Case	Meal, quick-serve, 6-man	9.5	95	19
2-1/6	Case	Ration, combat, individual	25	50	5
1	Case	Digger, foxhole	25	25	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
1	Case	Mine, Claymore, anti-personnel, M18	18	18	
20	Box	Cartridge, 7.62mm, MLB (A127)	17		340
1	Box	Cartridge, sidearm	3*		3*
7	Box	Cartridge, cal .50	37	74	185
4	Box	Ammunition, APHHW, point target	25*	100*	
3	Box	Ammunition, APHHW, area target	58*	135*	39*
10	Each	Launcher, rocket, 66mm, M72	4.5	18	27
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3		6
2	Each	Cookset, field	2		4
6	Each	Can, water, military, 5-gal	50	200	100
4	Each	Battery, radio	2*	8*	
14	Each	Life Preserver, yoke, oral or gas inflation, w/gas cylinder	4.5	63	
1	Each	Mount, radio	58*		58*
1	Each	Radio, AN/VRC-12	137*		137*
1	Each	Control Group, AN/GRA-39	28*		28*
1	Each	Reel equipment, CE 11, w/wire	18		18
1	Each	Radiacmeter, IM-108/PD	4		4
CARGO WEIGHT EACH SIDE				843.8	973.0
TOTAL CARGO WEIGHT					1,816.8

Above weights do not include combat equipped individuals. For computing individual weights, an average weight of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

*Estimated

TABLE C-7
WEIGHT DISTRIBUTION
2D RIFLE SQUAD CARRIER

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
12	Case	Meal, quick-serve, 6-man	9.5	95	19
2-1/6	Case	Ration, combat, individual	25	50	5
1	Case	Digger, foxhole	25	25	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
1	Case	Mine, Claymore, anti-personnel, M18	18	18	
20	Box	Cartridge, 7.62mm, MLB (A127)	17	17	340
1	Box	Cartridge, sidearm	3*		3*
7	Box	Cartridge, cal .50	37	74	185
4	Box	Ammunition, APHHW, point target	25*	100*	
3	Box	Ammunition, APHHW, area target	58*	135*	39*
10	Each	Launcher, rocket, 66mm, M72	4.5	18	27
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3		6
2	Each	Cookset, field	2		4
6	Each	Can, water, military, 5-gal	50	200	100
4	Each	Battery, radio	2*	8*	
2	Each	Battery, radio	4*	8*	
14	Each	Life Preserver, yoke, gas or oral inflation, w/gas cylinder	4.5	63	
1	Each	Mount, radio	58*		58*
1	Each	Radio, AN/VRC-12	137		137*
CARGO WEIGHT EACH SIDE				851.8	923.0
TOTAL CARGO WEIGHT					1,774.8

Above weights do not include combat equipped individuals. For computing individual weights, an average weight of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

*Estimated

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TABLE C-8

**WEIGHT DISTRIBUTION
3D RIFLE SQUAD CARRIER**

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
12	Case	Meal, quick-serve, 6-men	9.5	95	19
2-1/6	Case	Ration, combat, individual	26	50	5
1	Case	Digger, foxhole	25	25	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
	Case	Mine, Claymore, anti-personnel, M18	18	18	
20	Box	Cartridge, 7.62mm, MLB (A127)	17		340
1	Box	Cartridge, sidearm	3*		3*
7	Box	Cartridge, cal .50	37	74	185
4	Box	Ammunition, APHHW, point target	25*	100*	
3	Box	Ammunition, APHHW, area target	58*	135*	39*
10	Each	Launcher, rocket, 66mm, M72	4.5	18	27
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3		6
2	Each	Cookset, field	2		4
6	Each	Can, water, military, 5-gal	50	200	100
4	Each	Battery, radio	2*	8*	
14	Each	Life Preserver, yoke, gas or oral inflation, w/gas cylinder	4.5	63	
1	Each	Mount, radio	58*		58*
1	Each	Radio, AN/VRC-12	137*		137*
CARGO WEIGHT EACH SIDE				843.8	923.0
TOTAL CARGO WEIGHT					1,766.8

Above weights do not include combat equipped individuals. For computing individual weights, an average weight of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

* Estimated

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TABLE C-9

**WEIGHT DISTRIBUTION
4TH RIFLE SQUAD CARRIER**

QTY	UNIT	ITEM	UNIT WEIGHT	RIGHT SIDE	LEFT SIDE
12	Case	Meal, quick-serve, 6-man	9.5	95	19
2-1/6	Case	Ration, combat, individual	25	50	5
1	Case	Digger, foxhole	25	25	
1	Case	Grenade, hand, fragmentation	57.8	57.8	
1	Case	Mine, Claymore, anti-personnel, M18	18	18	
20	Box	Cartridge, 7.62mm, MLB (A127)	17		340
1	Box	Cartridge, sidearm	3*		3*
7	Box	Cartridge, cal .50	37	74	185
4	Box	Ammunition, APHFW, point target	25*	100*	
3	Box	Ammunition, APHFW, area target	58*	135*	39*
10	Each	Launcher, rocket, 66mm, M72	4.5		27
2	Each	Stove, gasoline burner, one burner, 5500 BTU	3		6
2	Each	Cookset, field	2		4
6	Each	Can, water, military, 5-gal	50	200	100
4	Each	Battery, radio	2*	8*	
14	Each	Life Preserver, ycke, gas or oral inflation, w/gas cylinder	4.5	63	
1	Each	Mount, radio	58*		58*
1	Each	Radio, AN/VRC-12	137*		137*
1	Each	Wire, WD-1/TT MX306	25		25
CARGO WEIGHT EACH SIDE				843.9	948.0
TOTAL CARGO WEIGHT					1,791.8

Above weights do not include combat equipped individuals. For computing individual weights, an average weight of 240 pounds for each combat equipped individual was used as defined in FM 57-35.

*Estimated

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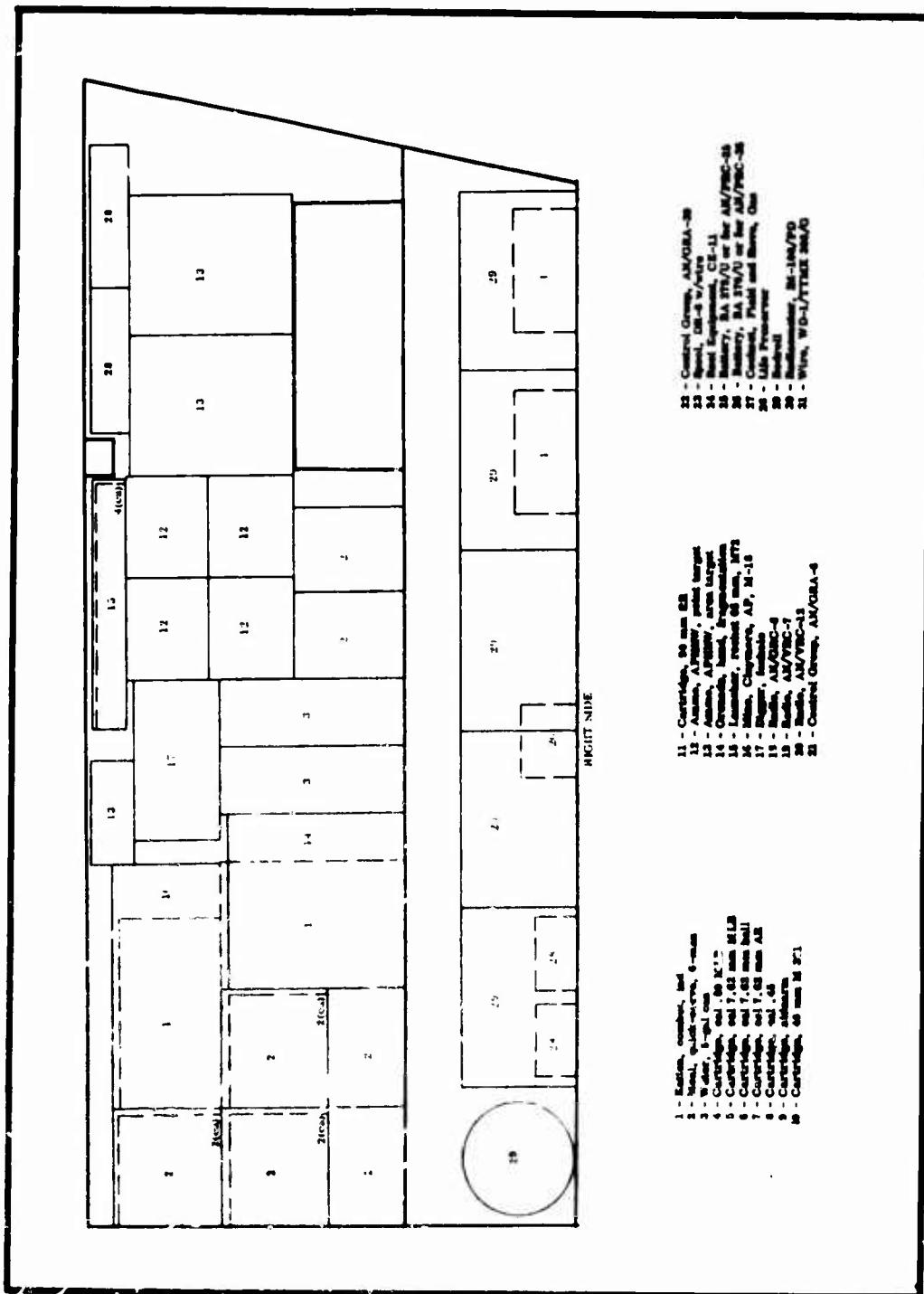


FIGURE C-13
LOADING DIAGRAM - 1ST RIFLE SQUAD CARRIER

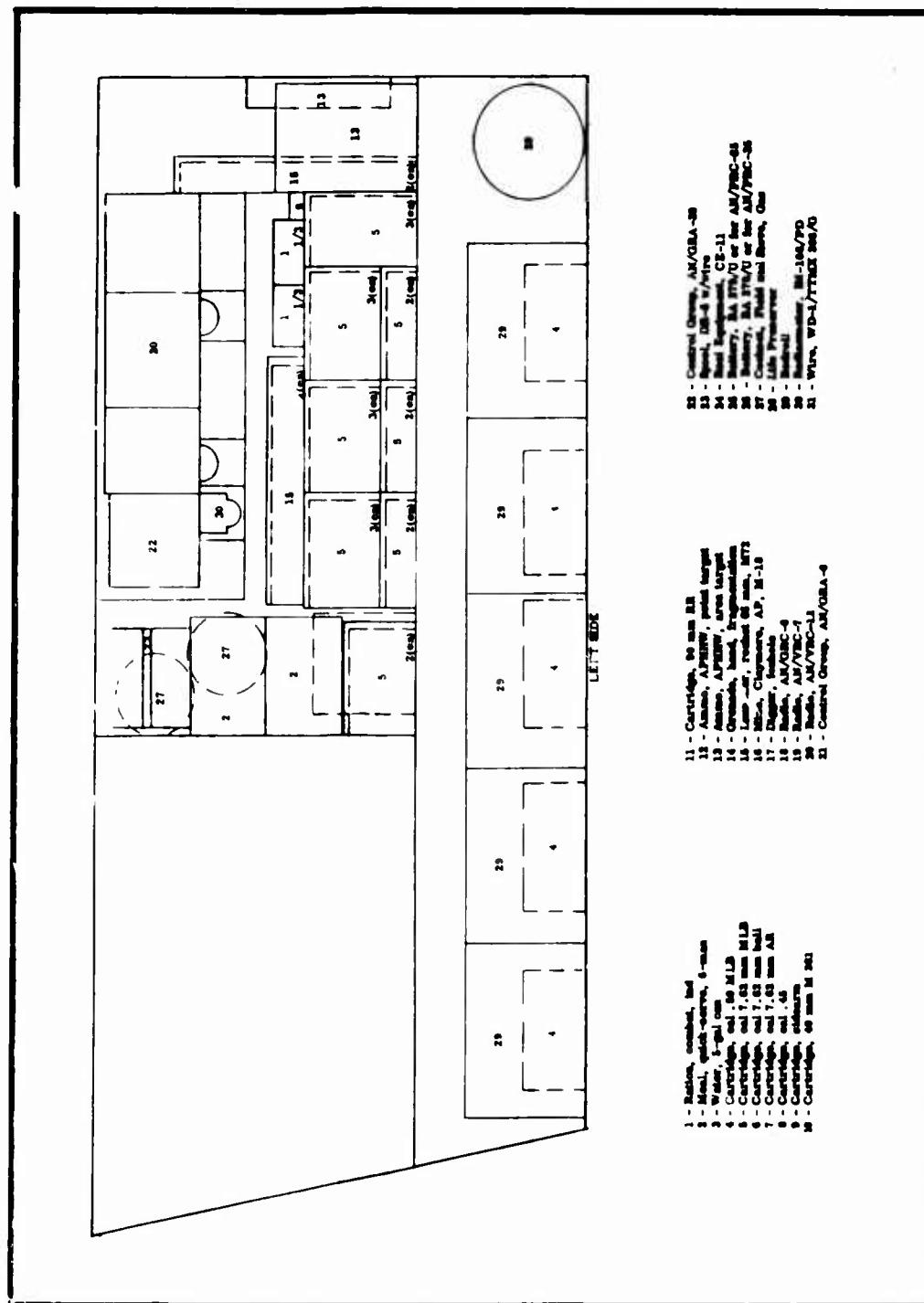


FIGURE C-14
LOADING DIAGRAM - 1ST RIFLE SQUAD CARRIER

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Number of Containers and Type	Location on Vehicle	Number of Containers and Type	Location on Vehicle
6 five-gal water cans	Four cans are mounted on the rear and outside. Two cans are lashed on the right spacon between the case of hand grenades and the case of M60, Quick-Serve.	10 Launchers, Rocket, 66 mm M 72	Four are lashed above the case of footole diggers and the cases of Ammunition, AP/PHW, point target on the right spacon. Four are lashed to the 7.62 mm ammunition below the radio mounted on the left spacon. Two are slung upright between the 7.62 mm ammunition and the box of ammunition AP/PHW area target on the left spacon.
12 cases of M60, Quick-Serve	Eight cases are lashed on the right spacon next to the engine compartment. Two cases are lashed between the case, water and the battery box cover on the right spacon. Two cases are lashed on the left spacon above the 7.62 mm ammunition next to the gas tank.	2 cases of life preservers containing six life preservers each and two extra.	Lashed alongside each other on top of the Ammunition, AP/PHW, area target on the right spacon. Extra life preservers are lashed under the right seats.
2 cases of Individual Combat Rations and 2/3	One case is lashed on the right spacon above the case of M60, Quick-Serve and in rear of the case of mines, anti-personnel. One case is lashed between the case of M60, Quick-Serve and case, water; and in rear of the case of hand grenades on the right spacon. Two-thirds ration is lashed above the ammunition, 7.62 mm next to the Launchers, rocket, 66 mm, M72 on the left spacon.	2 containers, field with above gasoline inserted in container.	Bovens and containers are lashed to the left side of the case of M60, Quick-Serve next to the gas tank on the left spacon.
1 case mines containing six M18 Claymore mines.	Lashed above case of M60, Quick-Serve and in front of the case of Individual Combat Rations on the right spacon.	30 boxes of ammunition 7.62 mm for Machine Gun. Each box has 200 rounds.	Lashed to the deck of the left spacon.
1 case of hand grenades containing twenty-five grenades, fragmentation.	Lashed on the right spacon in front of the case of Individual Combat Rations and between the case of M60, Quick-Serve and the water case.	7 boxes of ammunition cal .50. Each box has 100 rounds.	Five are lashed under the left seats. Two are lashed in the rear of the carrier under the right seats.
1 case of footole diggers containing twenty-five footole diggers.	Lashed on top of the water case on the right spacon.	Batteries, radio	Lashed in the center of the carrier under the right seats.
5 boxes of Ammunition AP/PHW area target. Two boxes containing 72 rounds each. Three boxes containing 34 rounds each.	Two large boxes are lashed on the right spacon on top of the battery box cover. One small box is lashed on top of the case of footole diggers and between the case of mines, anti-personnel and Launchers, rocket, 66 mm, M72 on the right spacon. Two small boxes are lashed next to the Launchers, rocket, 66 mm, M72 on the forward edge of the left spacon behind the driver.	1 box of Ammunition, Sidearm	Lashed to the Ammunition, 7.62 mm next to the Launchers, rocket, 66 mm, M72 on the left spacon.
4 boxes of Ammunition AP/PHW point target 1. Each box has 1200 rounds.	Lashed on top of the case of M60, Quick-Serve and between the case of footole diggers and large box of Ammunition AP/PHW area target on the right spacon.	13 bedrolls	Six bedrolls are placed under the right seats and six bedrolls are placed under the left seats. The thirteenth bedroll is placed under the driver's seat.
		2 Tripods, machine gun M60	Lashed to the top and outside of the carrier.
		Radiometer, BM-106/PD	Lashed to radio mount below the Control Group, AM/GRA 30 on the left spacon.
		Control Group AM/GRA 30	Lashed to the radio mount to the left of the radio.
		Reel Equipment, CE11 one-talking TS-10 and Special DM-4 with wire	Lashed on top of M60, Quick-Serve next to the gas tank on the left spacon.

TABLE C-10

STOWAGE AND TYPE CONTAINERS - 1ST RIFLE SQUAD CARRIER



FIGURE C-15
INTERIOR VIEW (CENTER) - 1ST RIFLE SQUAD CARRIER



FIGURE C-16

INTERIOR VIEW (RIGHT) - 1ST RIFLE SQUAD CARRIER

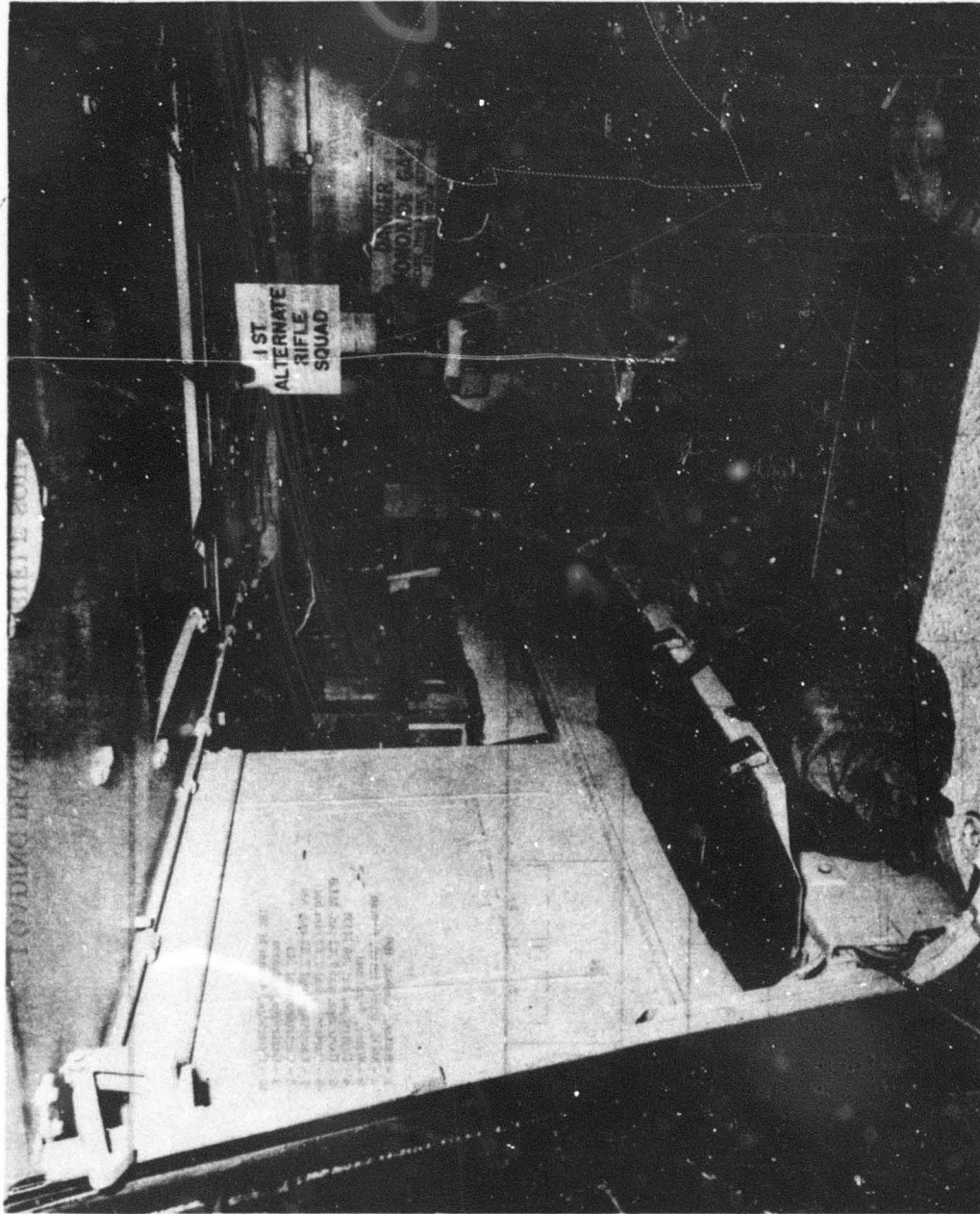


FIGURE C-17

INTERIOR VIEW (LEFT) - 1ST RIFLE SQUAD CARRIER

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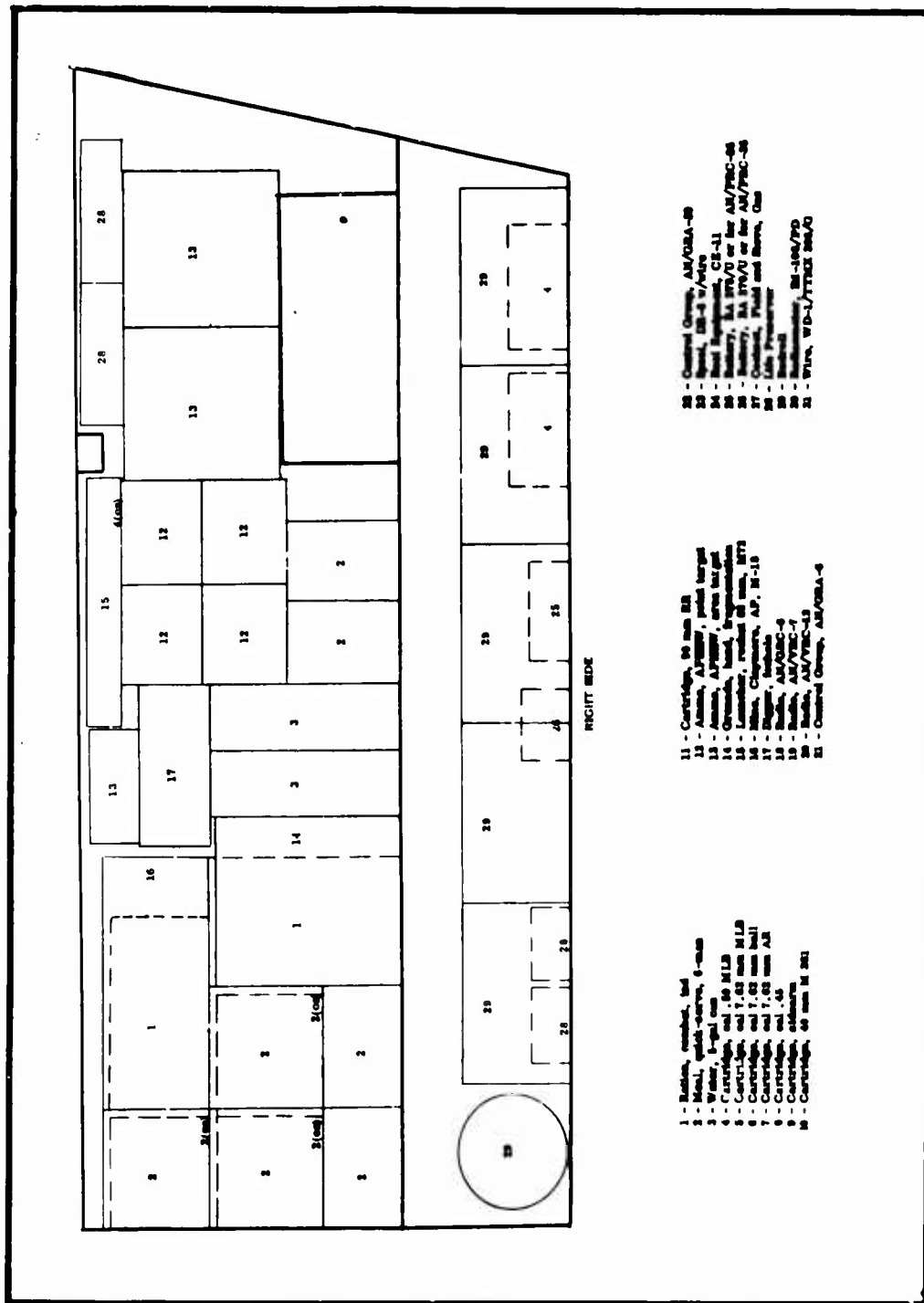


FIGURE C-18
LOADING DIAGRAM - 2D RIFLE SQUAD CARRIER

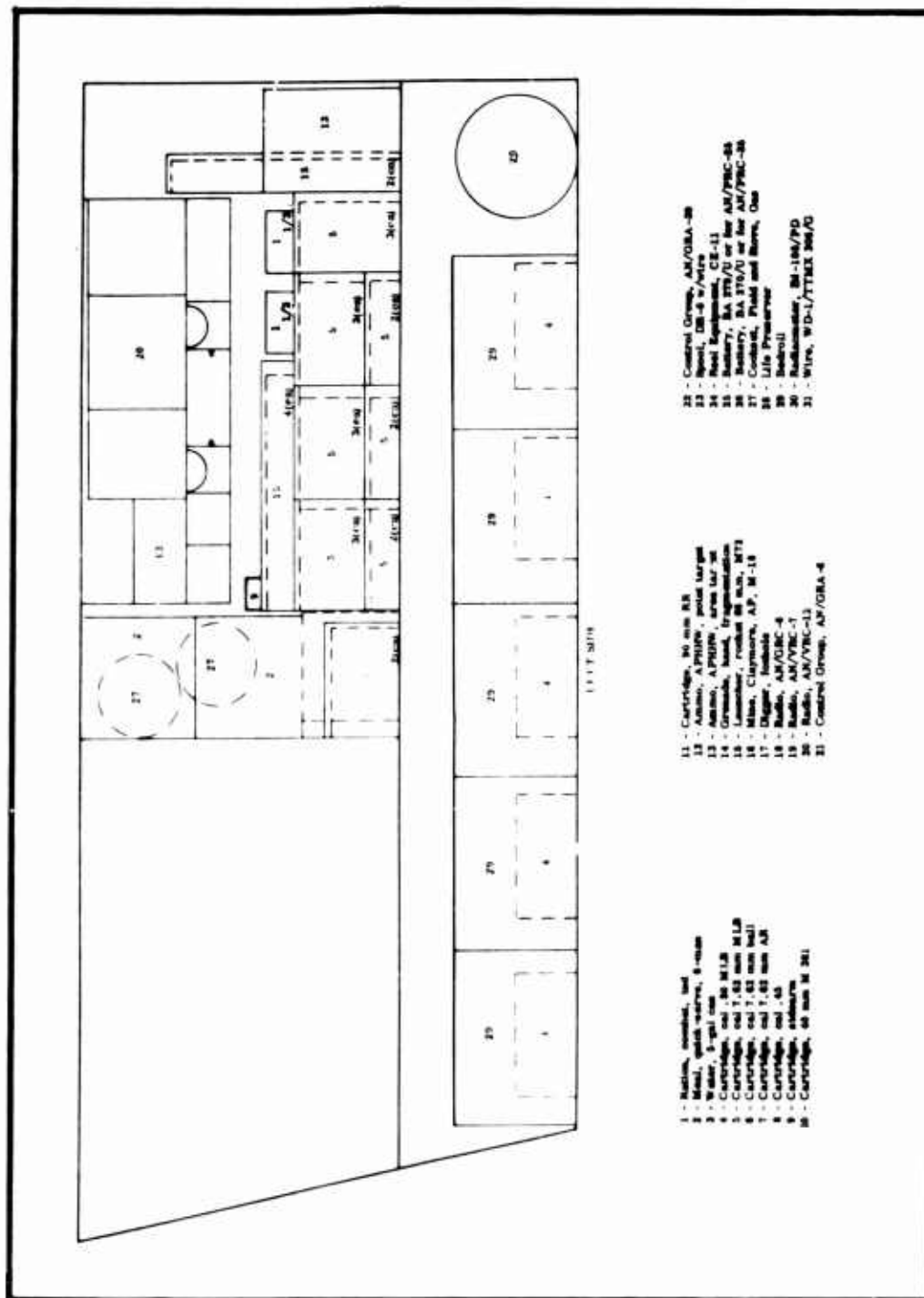


FIGURE C-19
LOADING DIAGRAM - 2D RIFLE SQUAD CARRIER

FOR OFFICIAL USE ONLY

<u>Number of Containers and Type</u>	<u>Location on Vehicle</u>	<u>Number of Containers and Type</u>	<u>Location on Vehicle</u>
6 five-gal water cans	Four cans are mounted on the rear and outside. Two cans are lashed on the right sponson between the case of hand grenades and the case of Meal, Quick-Serve.	4 boxes of Ammunition APHFW point target. Each box has 1200 rounds.	Lashed on top of the cases of Meal, Quick-Serve and between the case of foxhole diggers and large box of Ammunition, APHFW area target on the right sponson.
12 cases of Meal, Quick-Serve	Eight cases are lashed on the right sponson next to the engine compartment. Two cases are lashed between the cans, water and the battery box cover on the right sponson. Two cases are lashed on the left sponson above the 7.62 mm ammunition next to the gas tank.	10 Launchers, rocket, 66 mm, M72	Four are lashed above the case of foxhole diggers and the cases of Ammunition, APHFW, point target on the right sponson. Four are lashed to the 7.62 mm ammunition below the radio mount on the left sponson. Two are standing upright between the 7.62 mm ammunition and the box of ammunition APHFW area target on the left sponson.
2 cases of Individual Combat Rations and 2/3 ration.	One case is lashed on the right sponson above the cases of Meal, Quick-Serve and in rear of the case of mines, anti-personnel. One case is lashed between the case of Meal, Quick-Serve and cans, water, and in rear of the case of hand grenades on the right sponson. Two-thirds ration is lashed above the ammunition, 7.62 mm next to the Launchers, rocket, 66 mm, M72 on the left sponson.	2 cases of life preservers containing six life preservers each and two extra.	Lashed alongside each other on top of the Ammunition, APHFW, area target on the right sponson. Extra life preservers are lashed under the right seats.
1 case mines containing six M18 Claymore mines.	Lashed above cases of Meal, Quick-Serve and in front of the case of Individual Combat Rations on the right sponson.	2 cooksets, field with stove, gasoline inserted in container.	Stoves and cooksets are lashed to the bulkhead behind the cases of Meal Quick-Serve next to gas tanks on the left sponson.
1 case of hand grenades containing twenty-five grenades, fragmentation.	Lashed on the right sponson in front of the case of Individual Combat Rations and between the cases of Meal, Quick-Serve and the water cans.	20 boxes of ammunition 7.62 mm for Machine Guns. Each box has 200 rounds	Lashed to the deck of the left sponson.
1 case of foxhole diggers containing twenty-five foxhole diggers.	Lashed on top of the water cans on the right sponson.	7 boxes of ammunition cal .50. Each box has 100 rounds.	Five are lashed under the left seats. Two are lashed in the rear of the carrier under the right seats.
5 boxes of Ammunition APHFW area target. Two boxes containing seventy-two rounds each. Three boxes containing twenty-four rounds each.	Two large boxes are lashed on the right sponson on top of the battery box cover. One small box is lashed on top of the case of foxhole diggers and between the case of mines, anti-personnel and Launchers, rocket, 66 mm, M72 on the right sponson. Two small boxes are lashed next to the Launchers, rocket, 66 mm, M72 on the forward edge of the left sponson behind the driver.	Batteries, radio	Lashed in the center of the carrier under the right seats.
		1 box of Ammunition, Sidearm	Lashed to the Ammunition, 7.62 mm next to the launchers, rocket, 66 mm M72 on the left sponson.
		13 bedrolls	Six bedrolls are placed under the right seats and six bedrolls are placed under the left seats. The thirteenth bedroll is placed under the driver's seat.
		2 Tripods, machine gun M-60	Lashed to the top and outside of carrier.

TABLE C-11

STOWAGE AND TYPE CONTAINERS - 2D RIFLE SQUAD CARRIER

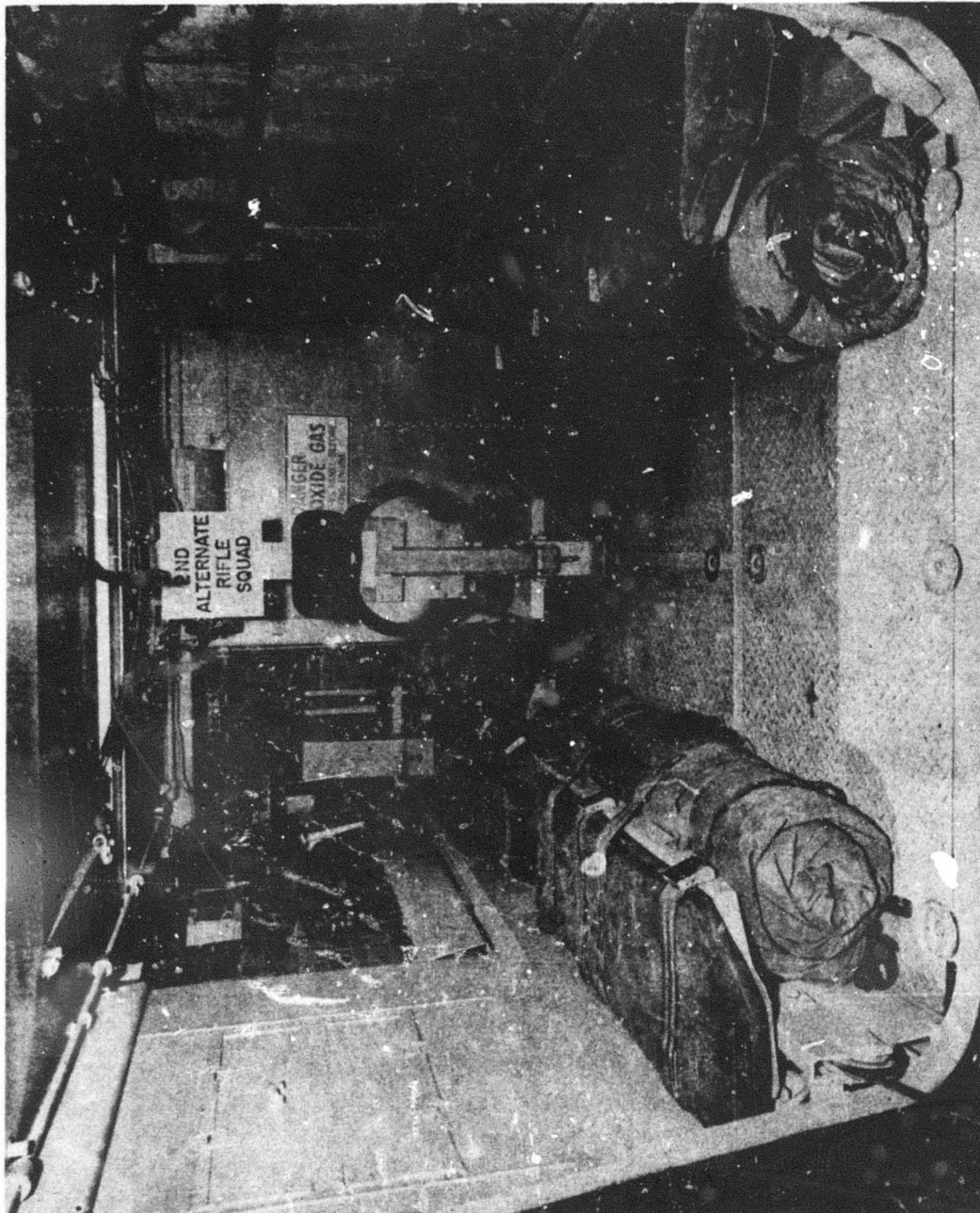


FIGURE C-20
INTERIOR VIEW (CENTER) - 2D RIFLE SQUAD CARRIER

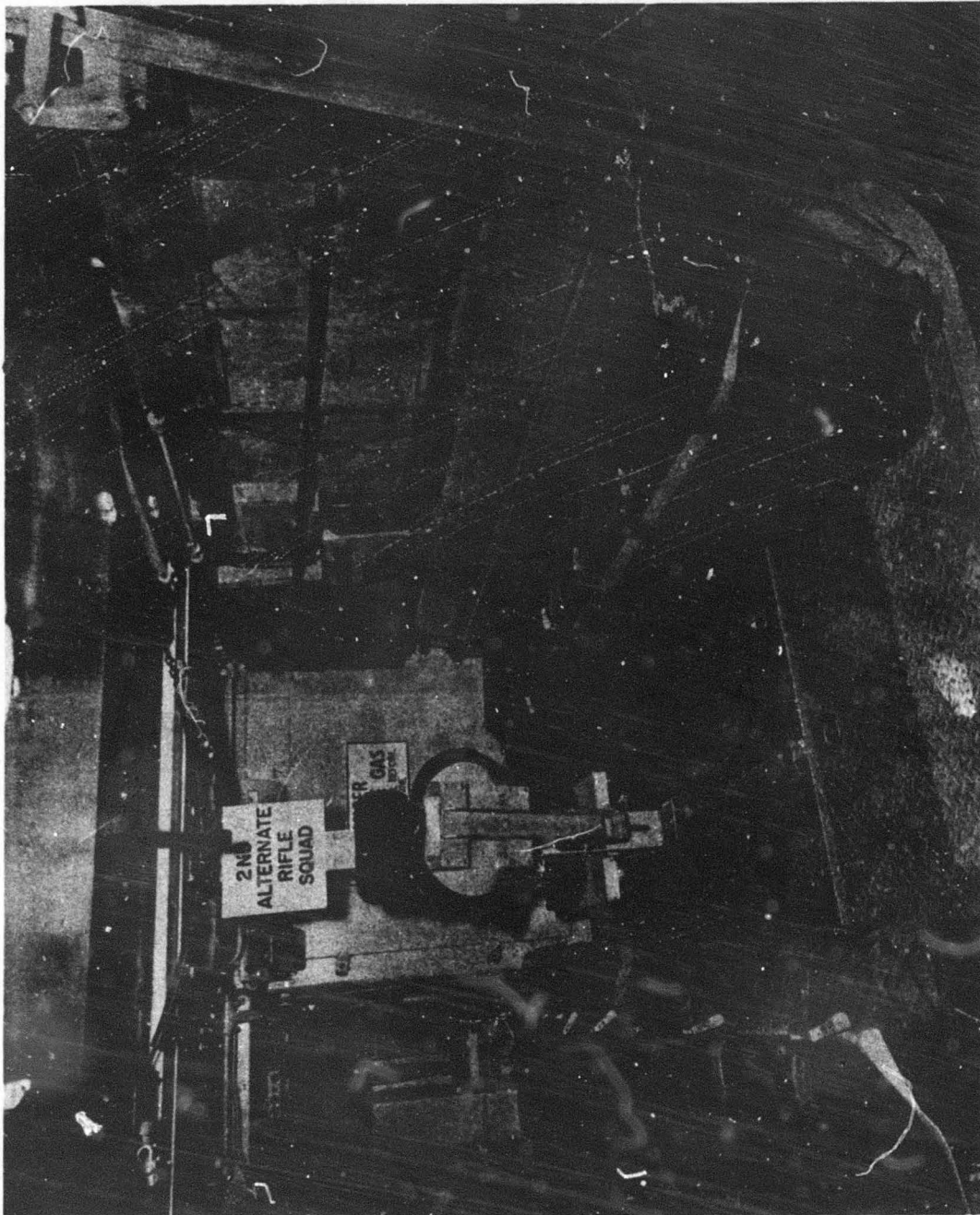


FIGURE C-21
INTERIOR VIEW (RIGHT) - 2D RIFLE SQUAD CARRIER

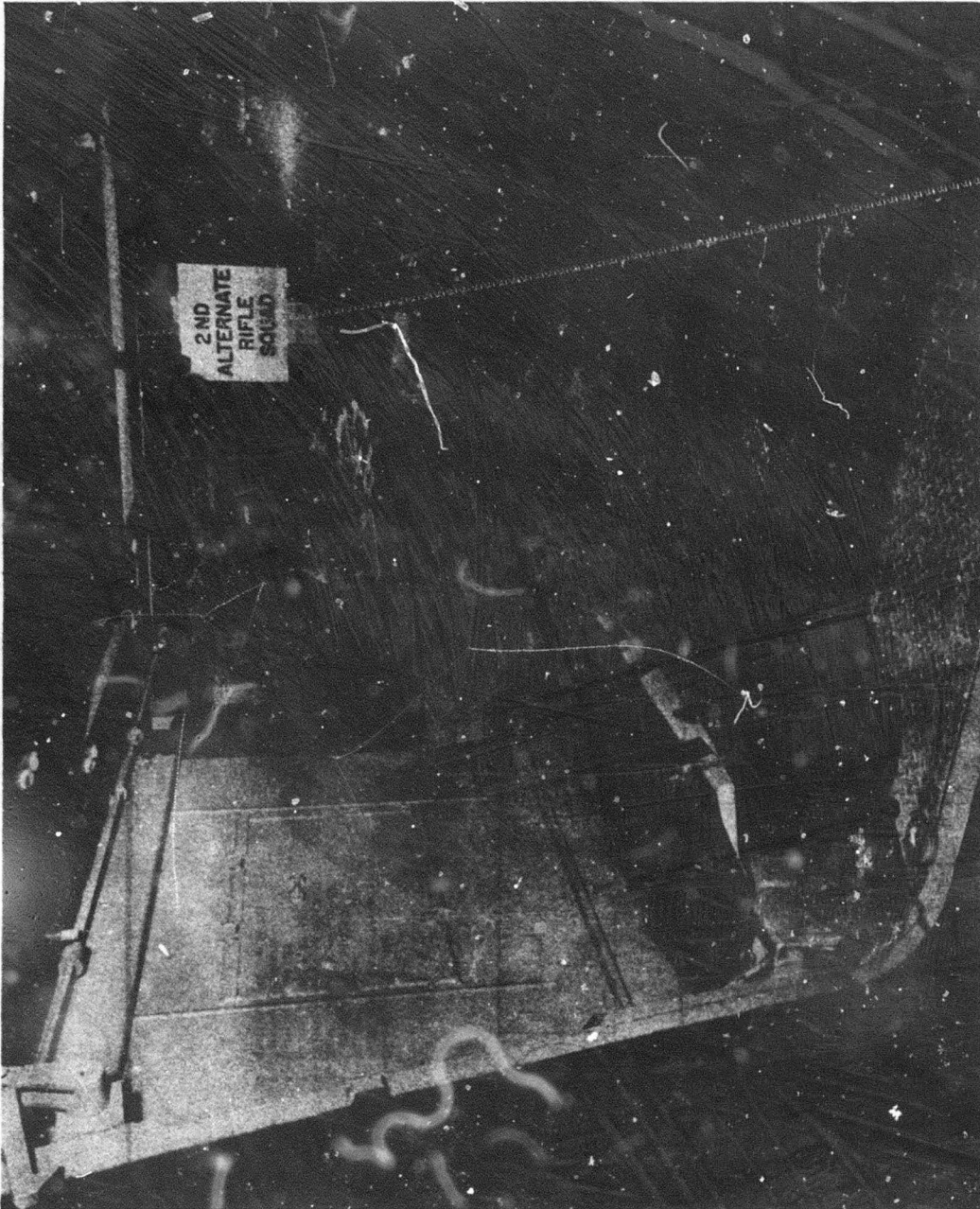


FIGURE C-22
INTERIOR VIEW (LEFT) - 2D RIFLE SQUAD CARRIER

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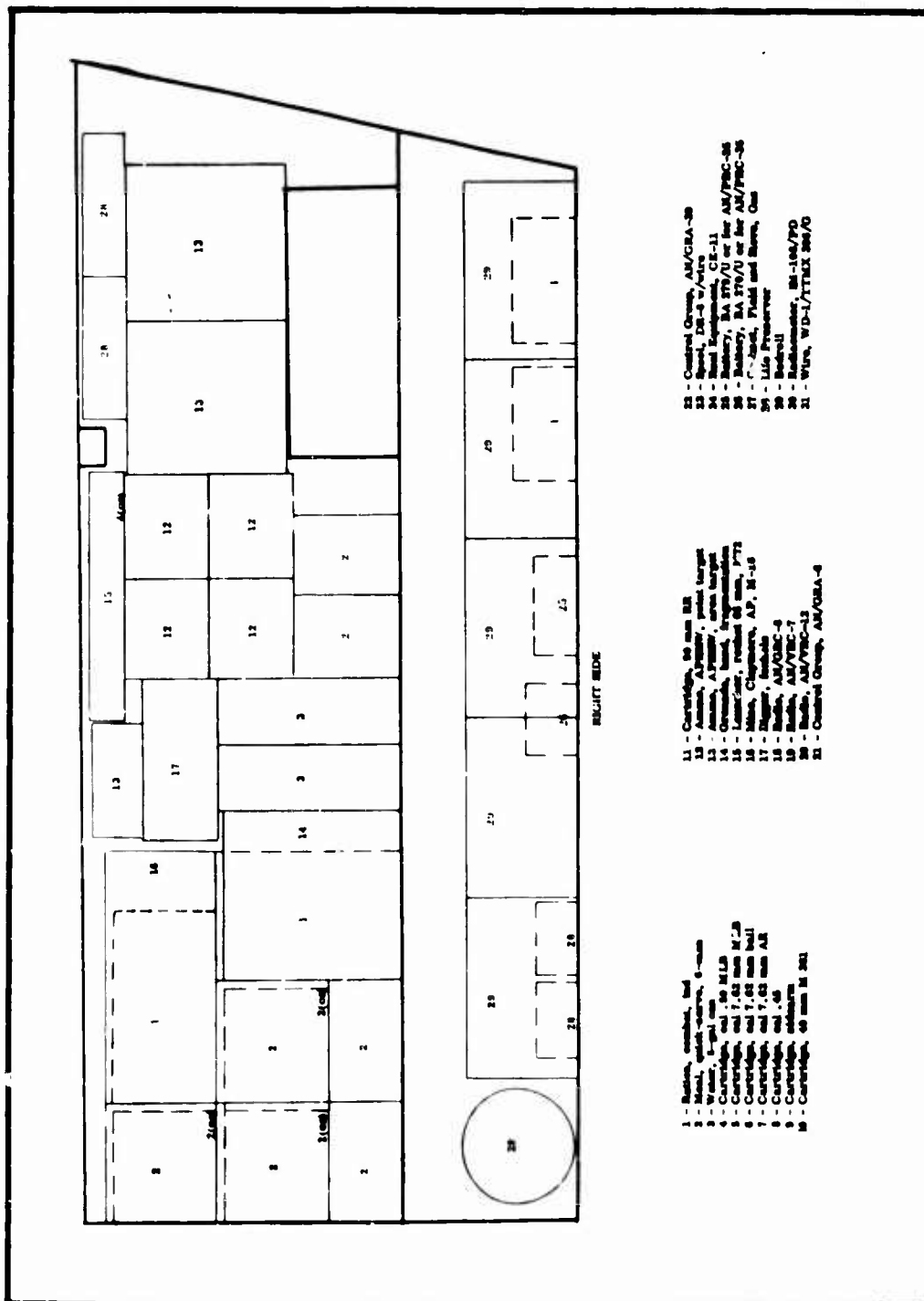


FIGURE C-23
LOADING DIAGRAM - 3D RIFLE SQUAD CARRIER

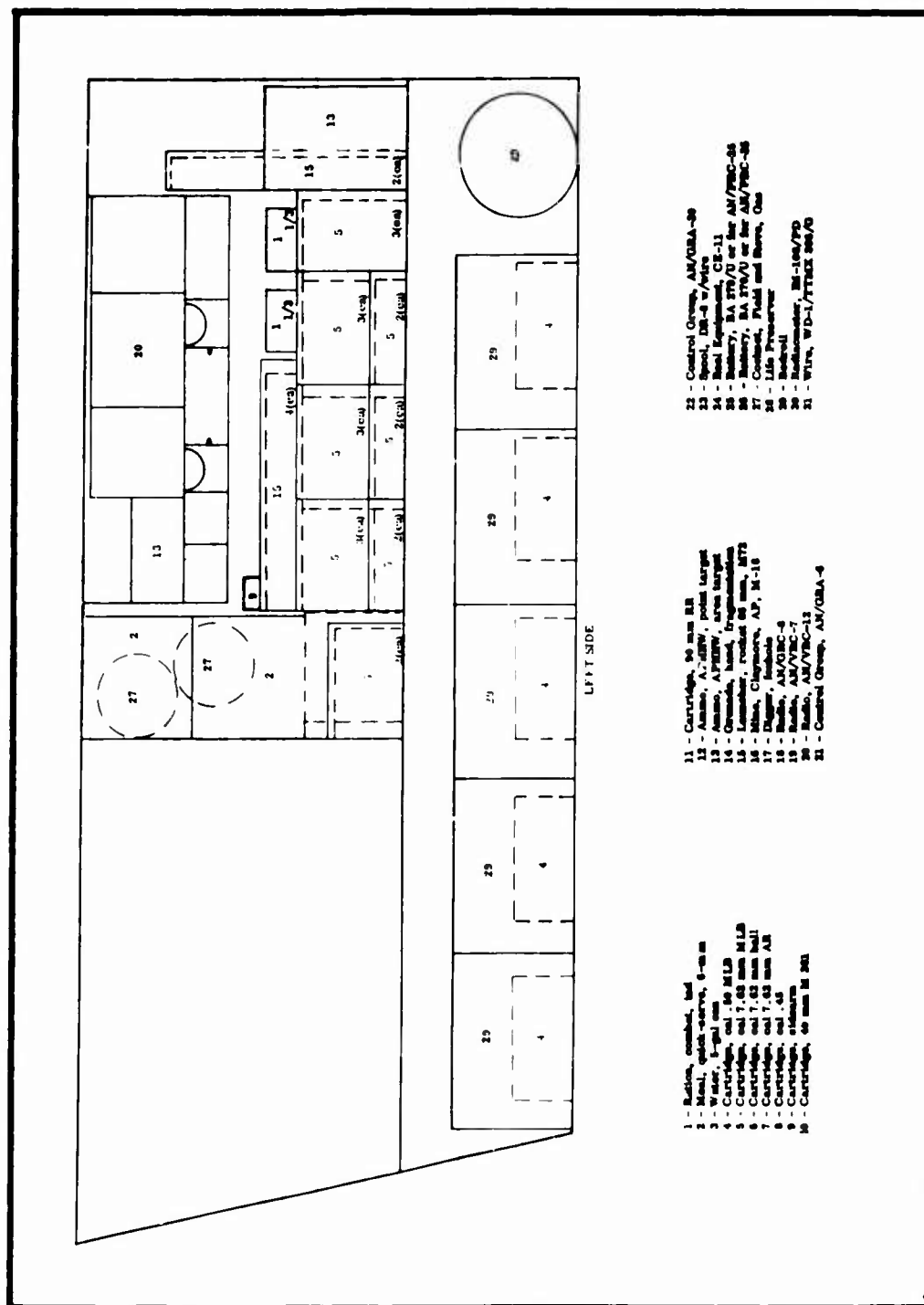


FIGURE C-24
LOADING DIAGRAM - 3D RIFLE SQUAD CARRIER

FOR OFFICIAL USE ONLY

Number of Containers and Type	Location on Vehicle	Number of Containers and Type	Location on Vehicle
6 five-gal water cans	Four cans are mounted on the rear and outside. Two cans are lashed on the right sponson between the case of hand grenades and the case of Meal, Quick-Serve.	4 boxes of Ammunition APHFW point target. Each box has 1390 rounds.	Lashed on top of the cases of Meal, Quick-Serve and between the case of foxhole diggers and large box of Ammunition, APHFW area target on the right sponson.
12 cases of Meal, Quick-Serve	Eight cases are lashed on the right sponson next to the engine compartment. Two cases are lashed between the case, water and the battery box cover on the right sponson. Two cases are lashed on the left sponson above the 7.62 mm ammunition next to the gas tank.	10 Launchers, rocket, 66 mm, M72	Four are lashed above the case of foxhole diggers and the cases of Ammunition, APHFW, point target on the right sponson. Four are lashed to the 7.62 mm ammunition below the radio mount on the left sponson. Two are standing upright between the 7.62 mm ammunition and the box of ammunition APHFW area target on the left sponson.
2 cases of Individual Combat Rations and 2/3 ration.	One case is lashed on the right sponson above the cases of Meal, Quick-Serve and in rear of the case of mines, anti-personnel. One case is lashed between the case of Meal, Quick-Serve and cans, water, and in rear of the case of hand grenades on the right sponson. Two-thirds ration is lashed above the ammunition, 7.62 mm next to the Launchers, rocket, 66 mm, M72 on the left sponson.	2 cases of life preservers containing six life preservers each and two extra.	Lashed alongside each other on top of the Ammunition, APHFW, area target on the right sponson. Extra life preservers are lashed under the right seats.
1 case mines containing six M18 Claymore mines.	Lashed above cases of Meal, Quick-Serve and in front of the case of Individual Combat Rations on the right sponson.	2 cooksets, field with stove, gasoline inserted in container.	Stoves and cooksets are lashed to the bulkhead behind the cases of Meal Quick-Serve next to gas tanks on the left sponson.
1 case of hand grenades containing twenty-five grenades, fragmentation.	Lashed on the right sponson in front of the case of Individual Combat Rations and between the cases of Meal, Quick-Serve and the water cans.	20 boxes of ammunition 7.62 mm for Machine Guns. Each box has 200 rounds	Lashed to the deck of the left sponson.
1 case of foxhole diggers containing twenty-five foxhole diggers.	Lashed on top of the water cans on the right sponson.	7 boxes of ammunition cal .50. Each box has 100 rounds.	Five are lashed under the left seats. Two are lashed in the rear of the carrier under the right seats.
5 boxes of Ammunition APHFW area target. Two boxes containing seventy-two rounds each. Three boxes containing twenty-four rounds each.	Two large boxes are lashed on the right sponson on top of the battery box cover. One small box is lashed on top of the case of foxhole diggers and between the case of mines, anti-personnel and Launchers, rocket, 66 mm, M72 on the right sponson. Two small boxes are lashed next to the Launchers, rocket, 66 mm, M72 on the forward edge of the left sponson behind the driver.	Batteries, radio	Lashed in the center of the carrier under the right seats.
		1 box of Ammunition, Stuearm	Lashed to the Ammunition, 7.62 mm next to the launchers, rocket, 66 mm M72 on the left sponson.
		13 bedrolls	Six bedrolls are placed under the right seats and six bedrolls are placed under the left seats. The thirtieth bedroll is placed under the driver's seat.
		2 Tripods, machine gun M-60	Lashed to the top and outside of carrier.

TABLE C-12
STOWAGE AND TYPE CONTAINERS - 3D RIFLE SQUAD CARRIER



FIGURE C-25
INTERIOR VIEW (CENTER) - 3D RIFLE SQUAD CARRIER



FIGURE C-26
INTERIOR VIEW (RIGHT) - 3D RIFLE SQUAD CARRIER



FIGURE C-27
INTERIOR VIEW (LEFT) - 3D RIFLE SQUAD CARRIER

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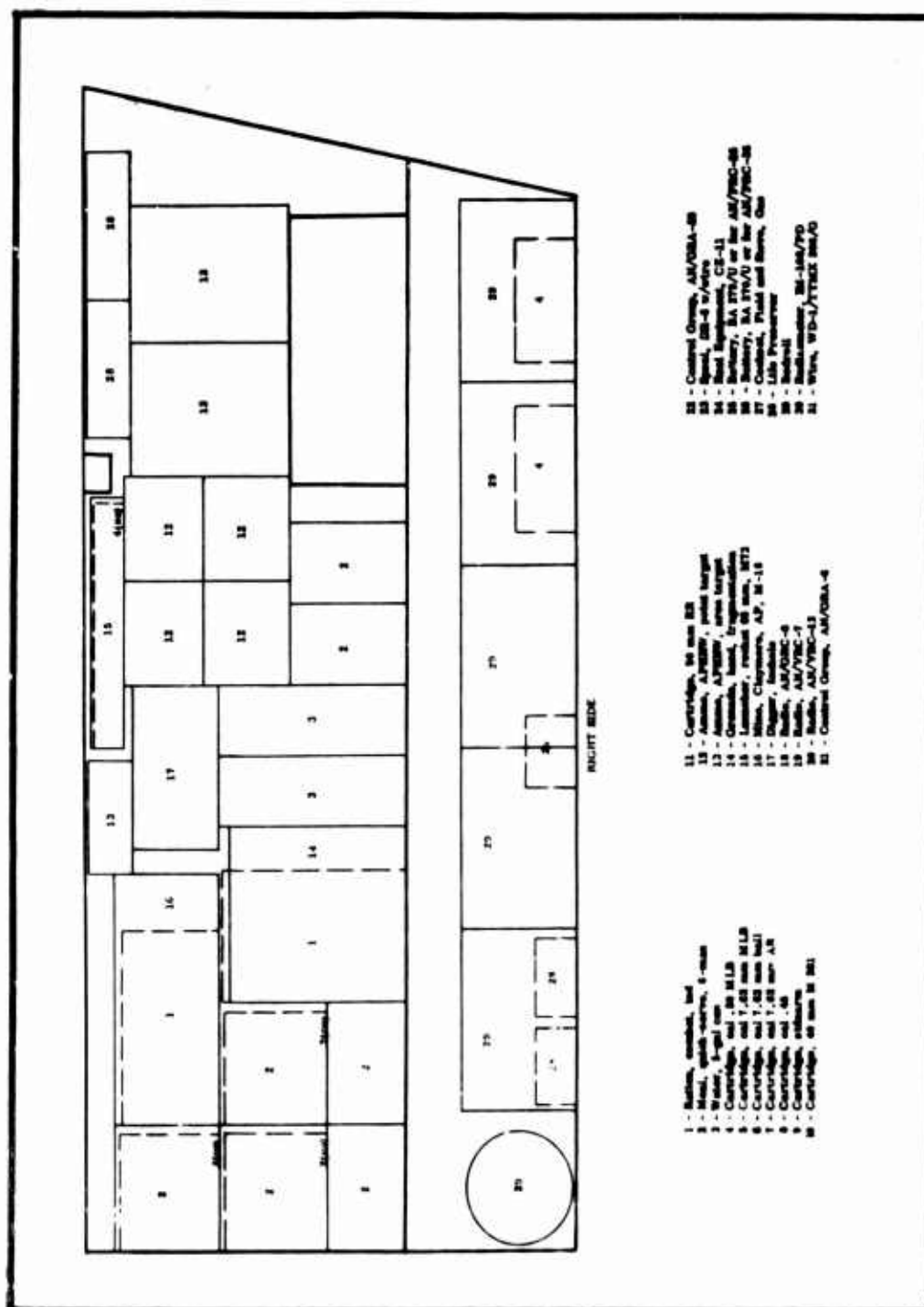


FIGURE C-28
LOADING DIAGRAM - 4TH RIFLE SQUAD CARRIER

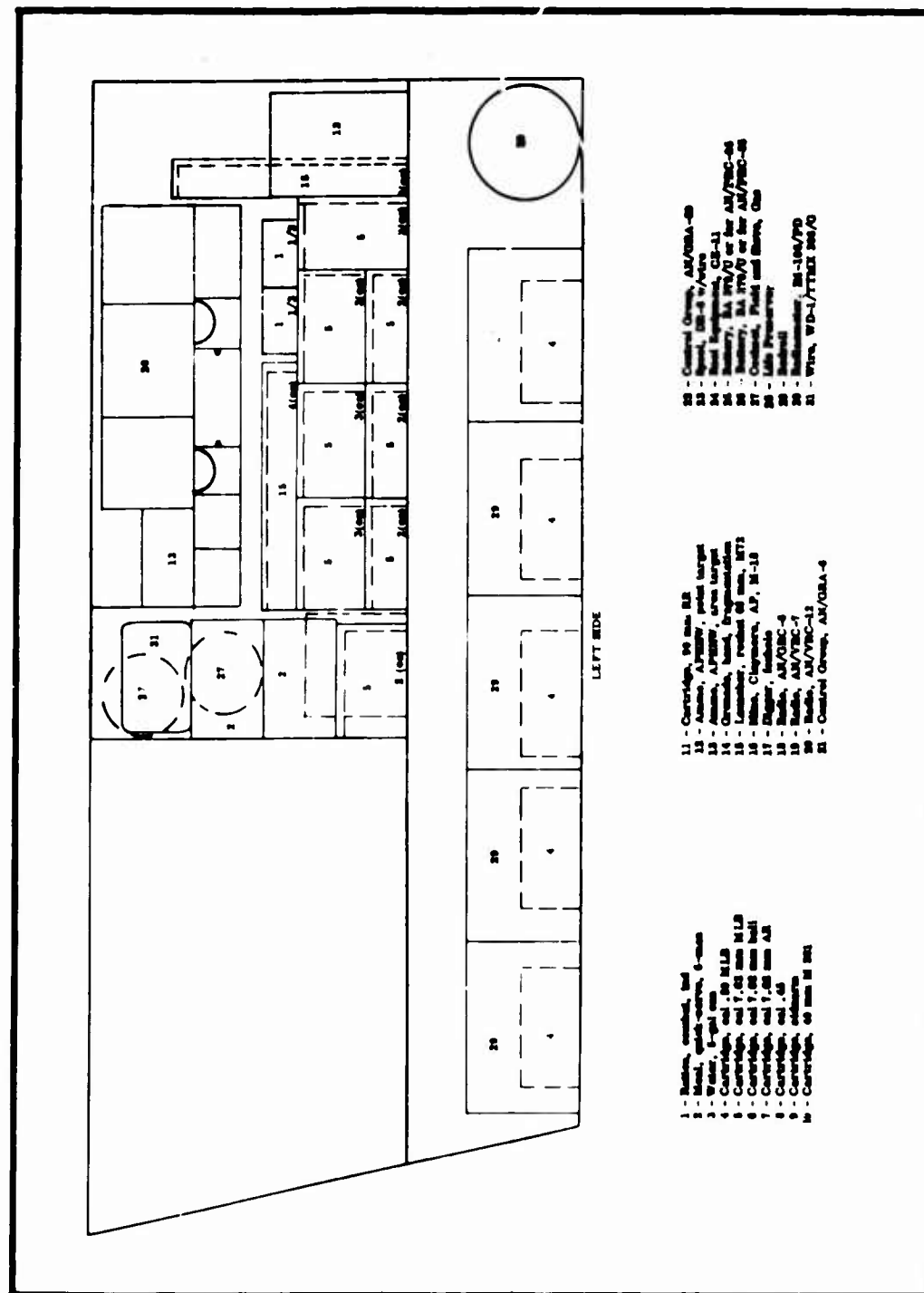


FIGURE C-29
LOADING DIAGRAM - 4TH RIFLE SQUAD CARRIER

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STOWAGE AND TYPE CONTAINERS -4TH RIFLE SQUAD CARRIER

TABLE C-13

Number of Containers and Type	Location on Vehicle
6 five-gal water cans	Four cans are mounted on the rear and outside. Two cans are lashed on the right sponson between the case of hand grenades and the case of Meal, Quick-Serve.
12 cases of Meal, Quick-Serve	Eight cases are lashed on the right sponson next to the engine compartment. Two cases are lashed between the case, water and the battery box cover on the right sponson. Two cases are lashed on the left sponson above the 7.62 mm ammunition next to the gas tank.
2 cases of Individual Combat Rations and 2/3 ration.	One case is lashed on the right sponson above the cases of Meal, Quick-Serve and in rear of the case of mines, anti-personnel. One case is lashed between the case of Meal, Quick-Serve and case, water; and in rear of the case of hand grenades on the right sponson. Two-thirds ration is lashed above the ammunition, 7.62 mm next to the Launchers, rocket, 66 mm, M72 on the left sponson.
1 case mines containing six M18 Claymore mines.	One case is lashed above cases of Meal, Quick-Serve and in front of the case of Individual Combat Rations on the right sponson.
1 case of hand grenades containing twenty-five grenades, fragmentation.	One case is lashed on the right sponson in front of the case of Individual Combat Rations and between the cases of Meal, Quick-Serve and the water cans.
1 case of foxhole diggers containing twenty-five foxhole diggers.	One case is lashed on top of the cans, water on the right sponson.
5 boxes of Ammunition, APHEW, area target. Two boxes containing 72 rounds each. Three boxes containing 24 rounds each.	Two large boxes are lashed on the right sponson on top of the battery box cover. One small box is lashed on top of the case of foxhole diggers and between the case of mines, anti-personnel and Launchers, rocket, 66 mm, M72 on the right sponson. Two small boxes are lashed next to the Launchers, rocket, 66 mm, M72 on the forward edge of the left sponson behind the driver.
4 boxes of Ammunition, APHEW, area target. Each box containing 1200 rounds.	Four boxes are lashed on top of the cases of Meal, Quick-Serve and between the case of foxhole diggers and last box of Ammunition, APHEW, area target on the right sponson.
10 Launchers, rocket, 66 mm, M72	Four are lashed above the case of foxhole diggers and the cases of Ammunition, APHEW, area target on the right sponson. Four are lashed to the 7.62 mm ammunition below the radio mount on the left sponson. Two are standing upright between the 7.62 mm ammunition and the box of ammunition, APHEW, area target on the left sponson.
2 cases of life preservers containing six life preservers each and two extra.	Two cases are lashed alongside each other on top of the Ammunition, APHEW, area target on the right sponson. Extra life preservers are lashed under the right seats.
2 cooksets, field with stove gasoline inserted in container.	Stoves and cooksets are lashed to the bulkhead behind the cases of Meal, Quick-Serve next to the gas tanks on the left sponson.
20 boxes of ammunition 7.62 mm for Machine Guns. Each box contains 200 rounds.	Twenty boxes are lashed to the deck of the left sponson.
7 boxes of ammunition cal .50. Each box contains 100 rounds.	Five boxes are lashed under the left seats. Two boxes are lashed in the rear of the carrier under the right seats.
Batteries, Radio	Batteries are lashed in the center of the carrier under the right seats.
1 box of Ammunition, sidearm	One box is lashed to the Ammunition, 7.62 mm next to the Launchers, rocket, 66 mm, M72 on the left sponson.
13 bedrolls	Six bedrolls are placed under the right seats and six bedrolls are placed under the left seats. The thirteenth bedroll is placed under the driver's seat.
2 Tripods, Machine Gun M60	Two tripods are lashed to the top and outside the carrier.
Wire, MX306	Wire is lashed in front of the cooksets, field next to the gas tank on the left sponson.



FIGURE C-30
INTERIOR VIEW (CENTER) - 4TH RIFLE SQUAD CARRIER

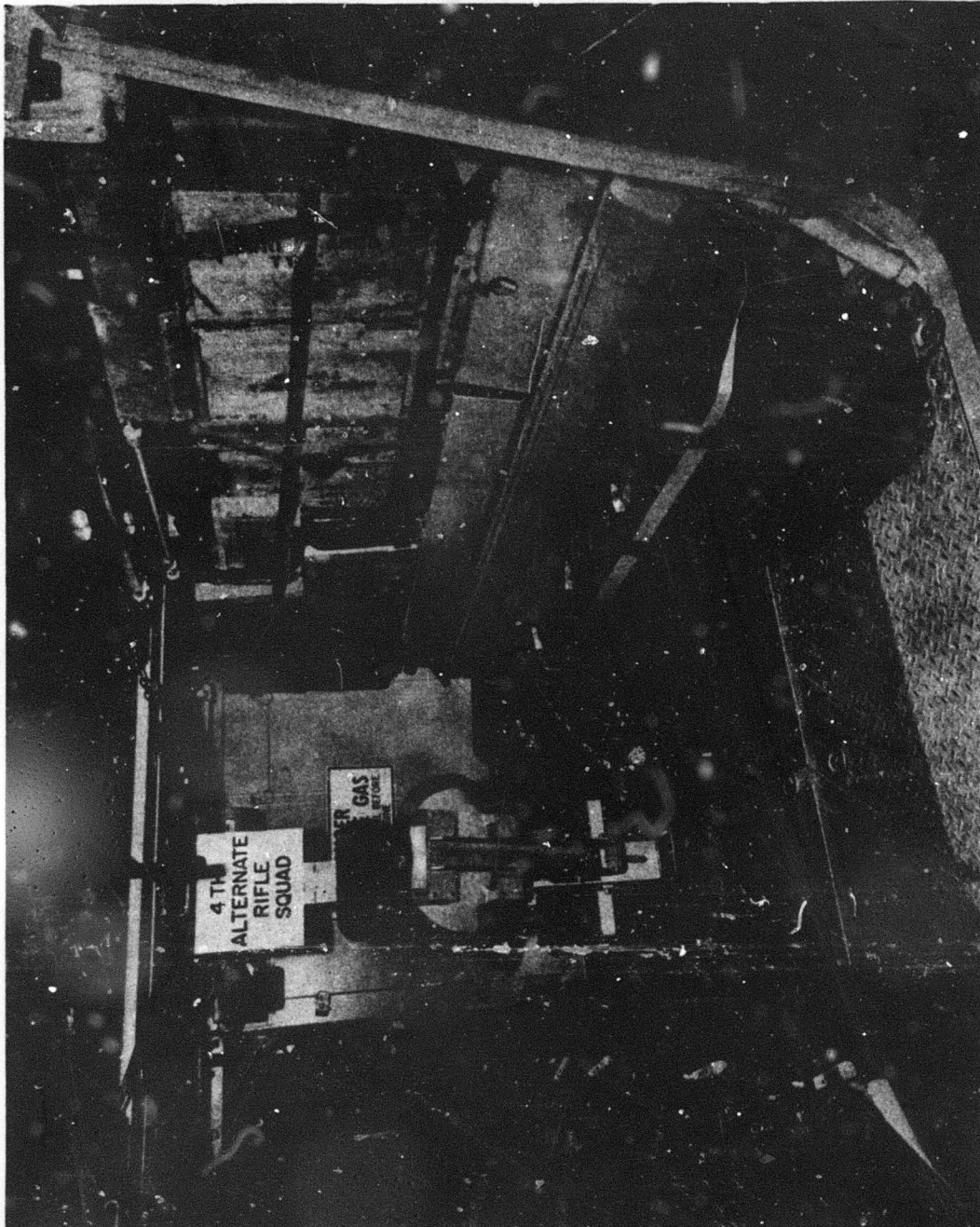


FIGURE C-31

INTERIOR VIEW (RIGHT) -- 4TH RIFLE SQUAD CARRIER

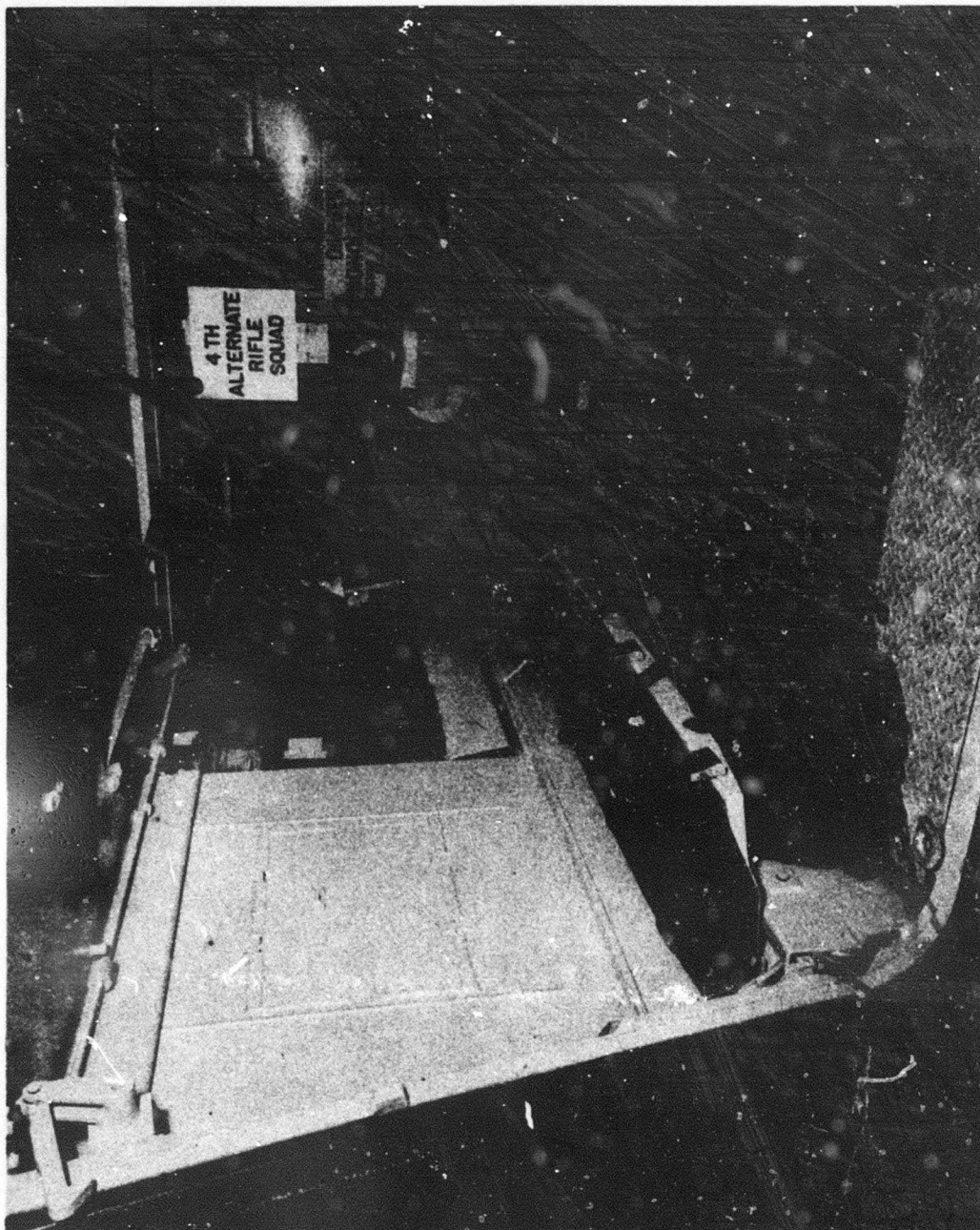


FIGURE C-32
INTERIOR VIEW (LEFT) - 4TH RIFLE SQUAD CARRIER

Annex D

RECOMMENDED MODIFICATIONS TO THE M113 ARMORED PERSONNEL CARRIER

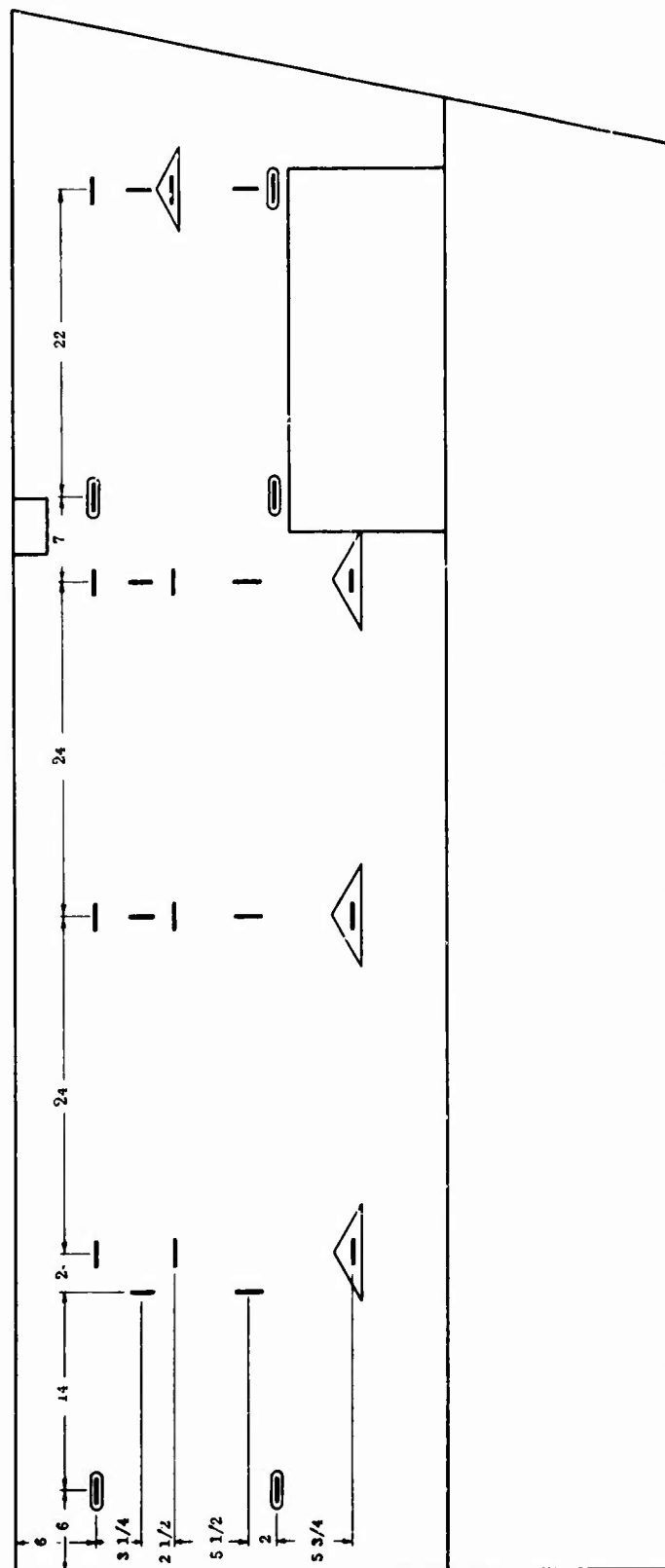
1. MODIFICATION OF TIE-DOWN LOOPS

a. The installation of additional tie-down loops on the right and left sponsons, seat back rests and bulkheads, as shown in Figures D-1 through D-4, pp 140 through 143, would facilitate the securing of loads to be carried in the M113 APC.

b. Four of the present tie-down loops, as shown in Figure D-1, p 140, are not required and should be eliminated.

2. MODIFICATION OF EXTERIOR BRACKETS FOR WATER CANS

Approximately 25 gallons of water per day are required for a 12-man squad. By using the present brackets for 5-gallon water cans plus stowing cans inside the carrier, a little more than one day's supply could be carried. The modification of the exterior water can brackets, as shown in Figures D-5 through D-7, pp 144 through 146, will increase the amount of water carried by 10 gallons, which will allow the squad to operate for a longer period of time without resupply.



ANNEX D

140

⊖ = Tie down loops to be added

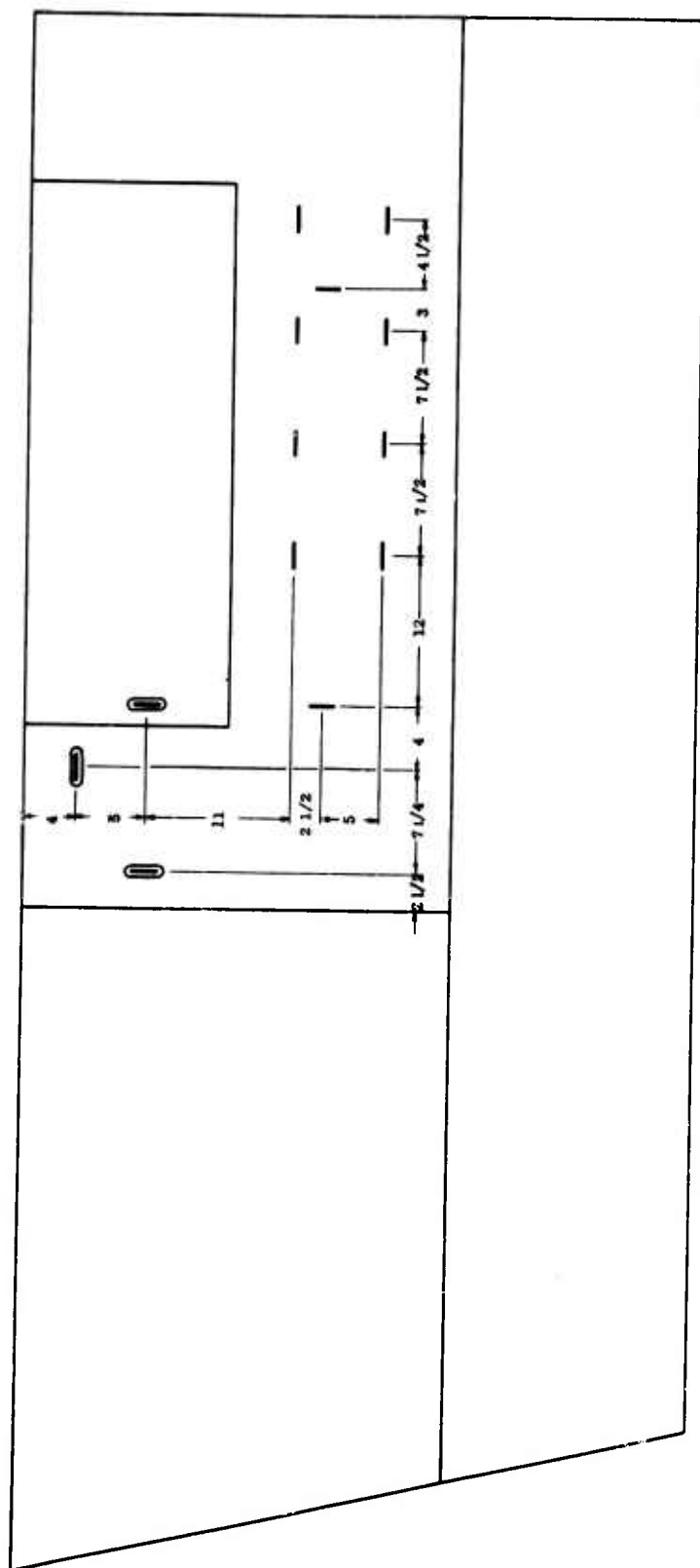
△ = Tie down loops to be deleted

| = Tie down loops to remain unchanged

FIGURE D-1

RECOMMENDED LOCATION OF TIE-DOWN LOOPS (RIGHT SIDE)

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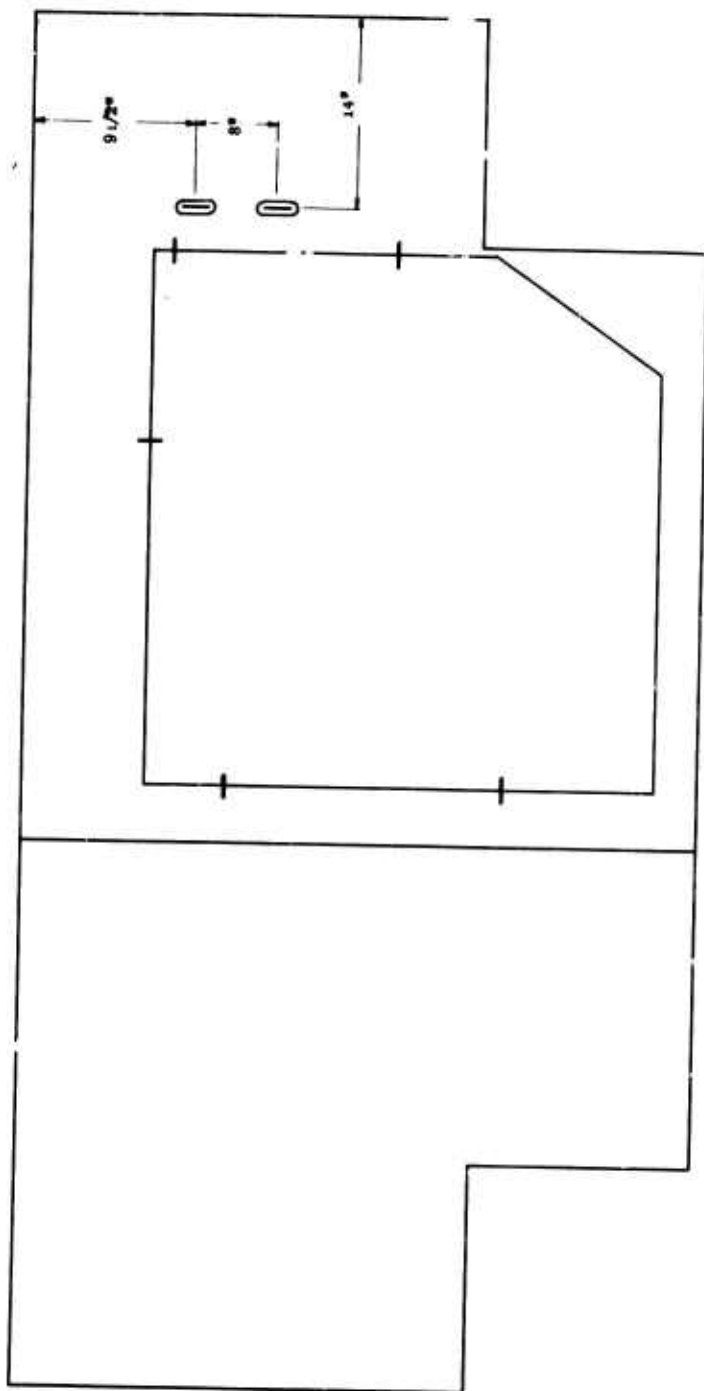
⏏ = Tie down loops to be added

⏏ = Tie down loop: to be deleted

| = Tie down loops to remain unchanged

FIGURE D-2

RECOMMENDED LOCATION OF TIE-DOWN LOOPS (LEFT SIDE)






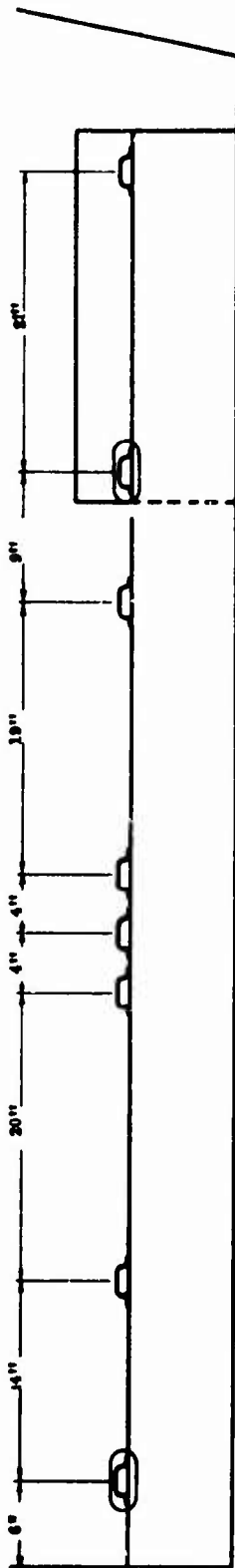
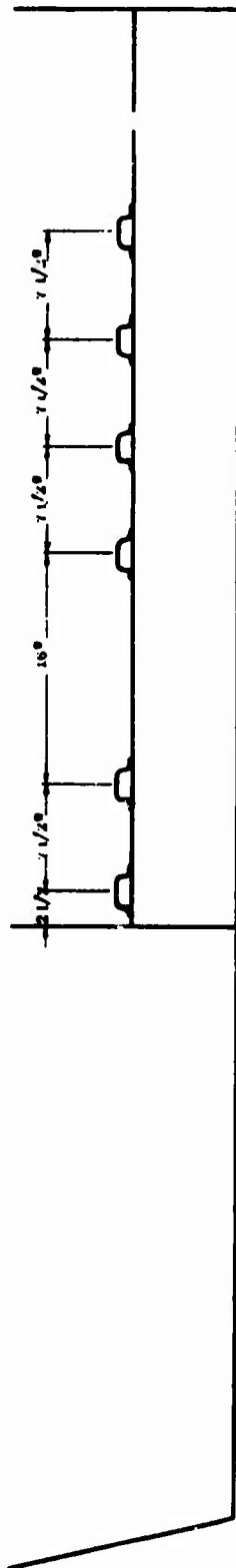
-  = Tie down loops to be added
-  = Tie down loops to be deleted
-  = Tie down loops to remain unchanged

FIGURE D-3
RECOMMENDED LOCATION OF TIE-DOWN LOOPS (FRONT BULKHEAD)



RECOMMENDED LOCATION OF TIE-DOWN LOOPS (RIGHT SEAT BACK REST)



RECOMMENDED LOCATION OF TIE-DOWN LOOPS (LEFT SEAT BACK REST)

 - Tie down loops to be added

 - Tie down loop: to be deleted


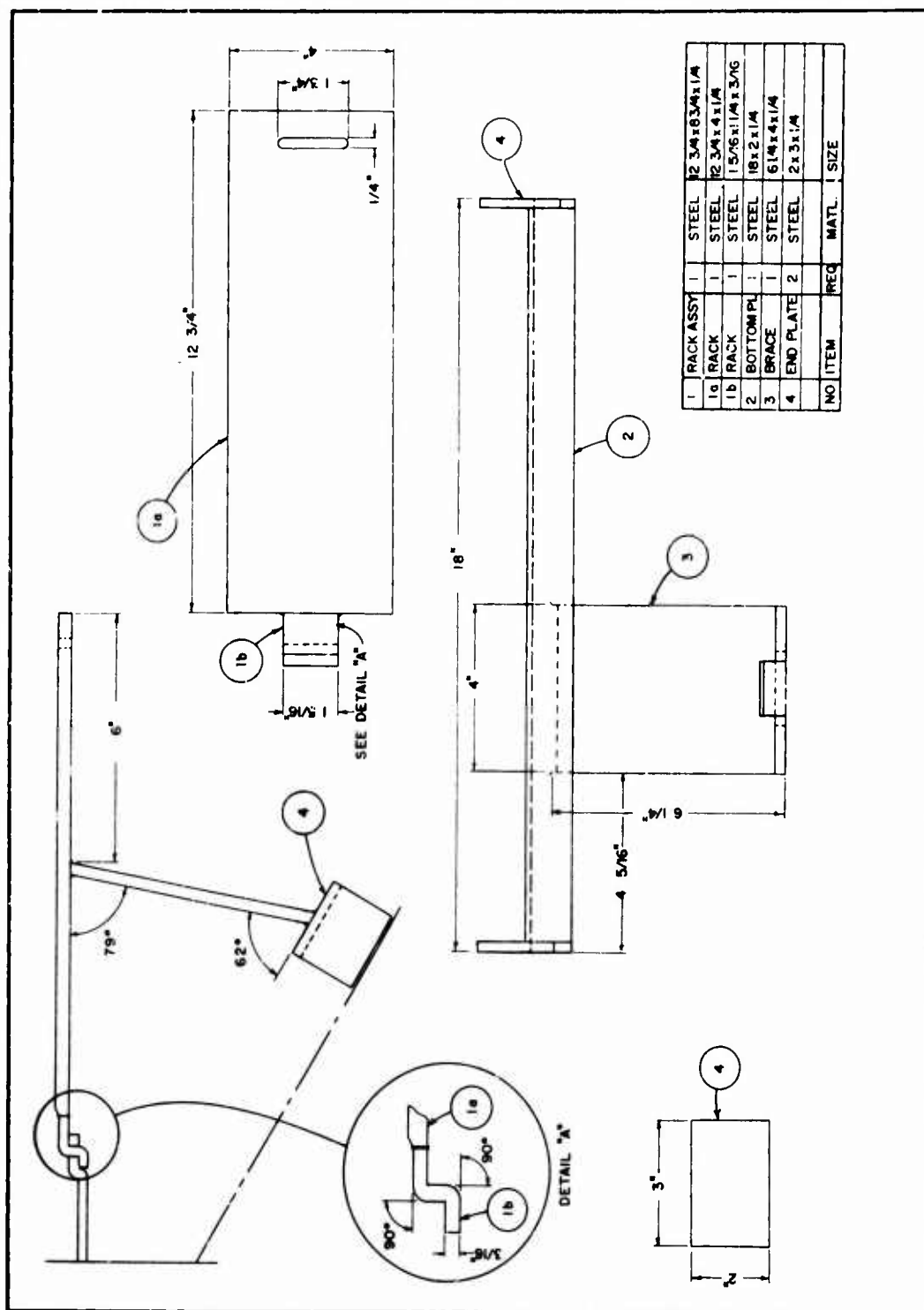
 - Tie down loops to remain unchanged

FIGURE D-4

RECOMMENDED LOCATION OF TIE-DOWN LOOPS (EAT BACK RESTS)

FIGURE D-5
DIAGRAM OF WATER CAN BRACKET



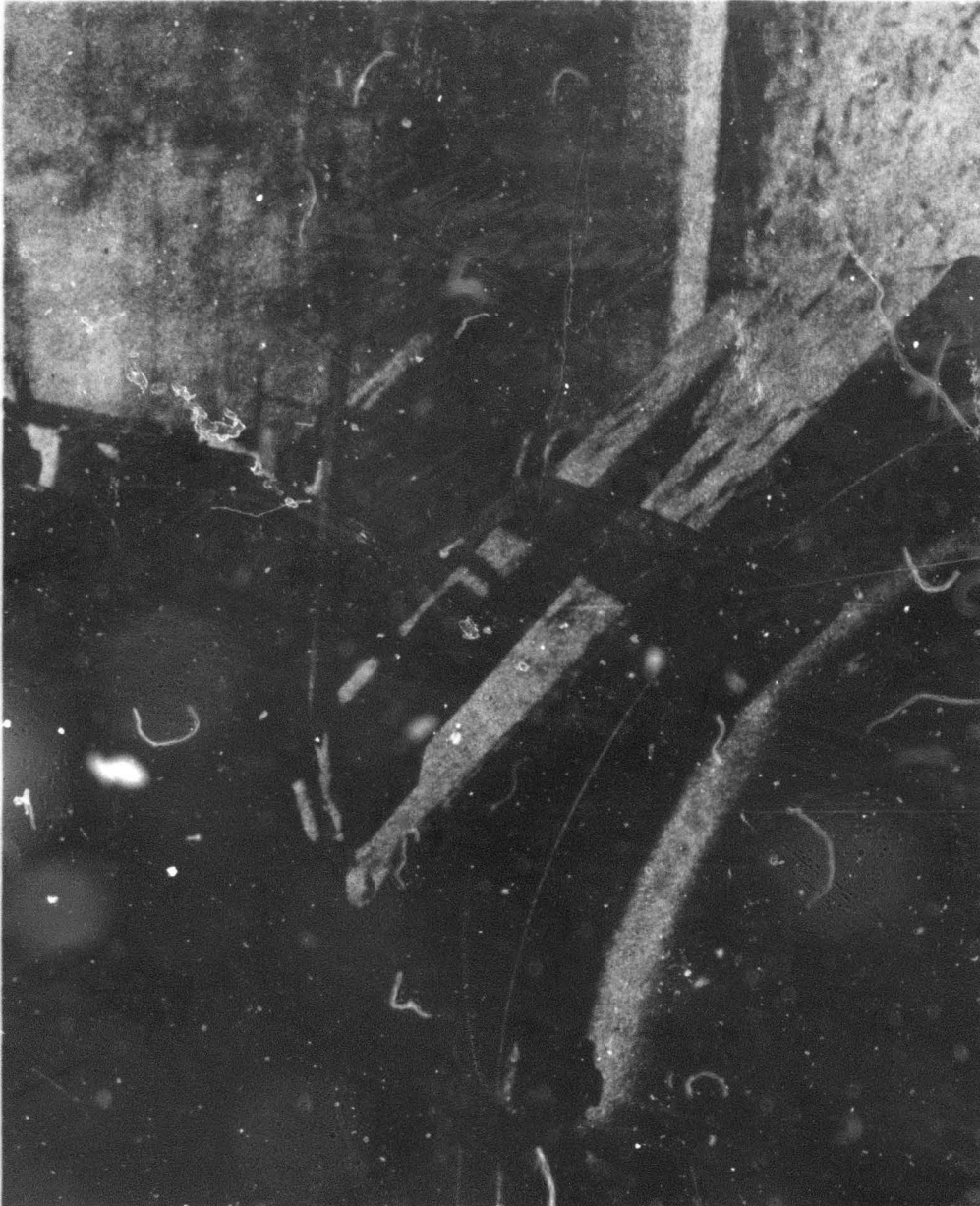


FIGURE D-6
LEFT SIDE VIEW OF WATER CAN BRACKET

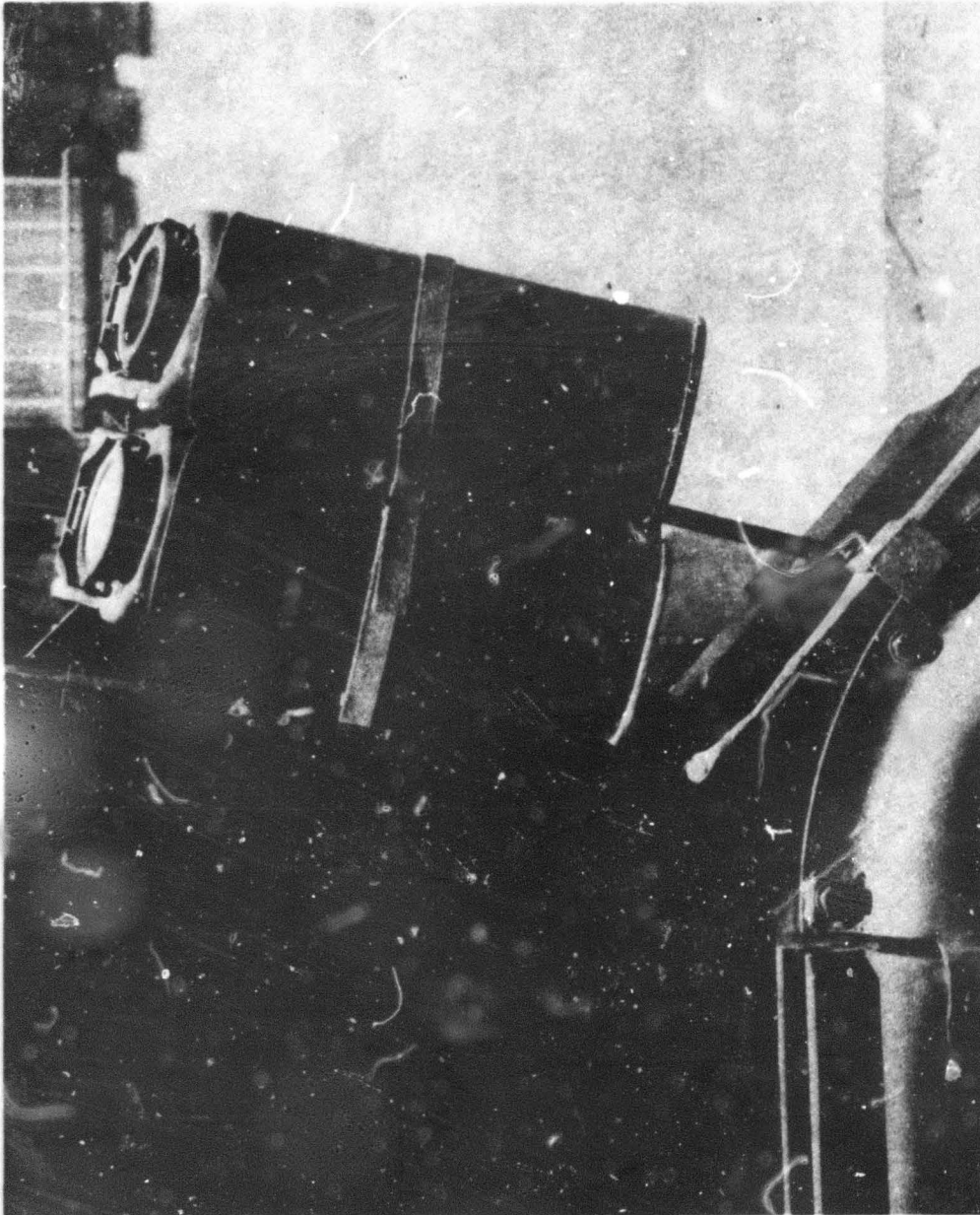


FIGURE D-7
LEFT SIDE VIEW OF WATER CANS ON BRACKET

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<small>(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)</small>		
1 ORIGINATING ACTIVITY (Corporate author) US Army Combat Developments Command Experimentation Command, Fort Ord, California 93941		2a REPORT SECURITY CLASSIFICATION Unclassified
		2b GROUP
3 REPORT TITLE OPTIMUM LOADING PLANS FOR THE M113 ARMORED PERSONNEL CARRIER (U)		
4 DESCRIPTIVE NOTES (Type of report and inclusive dates) Final Report		
5 AUTHOR(S) (Last name, first name, initial) US Army Combat Developments Command Experimentation Command, Fort Ord, California 93941		
6 REPORT DATE November 1961	7a TOTAL NO OF PAGES 78	7b NO OF REFS 15
8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)	
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13. ABSTRACT A field experiment was conducted to determine optimum loading plans for M113 armored personnel carriers used with three different rifle platoons -- the ROAD 65 mechanized rifle platoon and the optimum mechanized and alternate mechanized platoons developed by USACDCEC for 1965-1970. Supply requirements were developed for one day in combat, and the maximum number of one-day supplies were then loaded in the carriers. Loads were changed as the experiment progressed, allowing incorporation of the observations and comments of personnel involved in the experiment. An optimum loading plan for each of the three platoons was derived.		

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
ROAD-65 mechanized rifle platoon Loading plans (M113 APC) Supply Armored Personnel Carrier (M113)						

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